

(FILE 'HOME' ENTERED AT 10:57:59 ON 03 SEP 2002)

FILE 'CAPLUS' ENTERED AT 10:58:08 ON 03 SEP 2002

L1 245 S POLYACETAL AND FORMALDEHYDE
L2 359 S POLYACETAL? AND ?FORMALDEHYDE?
L3 8 S ?GLYCIDYL? AND L2

FILE 'DPCI' ENTERED AT 11:14:50 ON 03 SEP 2002

L4 1 S JP08012734/PN
L5 5 S TAJIMA?/IN AND OKAWA?/IN

FILE 'CAPLUS' ENTERED AT 11:17:21 ON 03 SEP 2002

L6 25 S TAJIMA?/IN AND OKAWA?/IN
L7 0 S L2 AND L6
L8 267 S POLYOXYMETHYLENE? AND ?GLYCIDYL?
L9 93 S ?TRIOXANE?(3A)?GLYCIDYL?
L10 93 S L9 NOT L3
L11 659486 S BLEND? OR BLOCK?
L12 36 S L10 AND L11
L13 25 S L12 NOT L6
L14 11 S L12 AND L6

L1 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS
 AN 1996:115545 CAPLUS
 DN 124:177931
 TI Compositions of polyacetals and modified polyolefins
 IN Myawaki, Keiichi; Serizawa, Hajime
 PA Polyplastics Kk, Japan
 SO Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C08L023-26
 ICS C08K003-00; C08K007-02; C08K007-22; C08L059-00
 CC 37-3 (Plastics Manufacture and Processing)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07316366	A2	19951205	JP 1994-109259	19940524 <--
PRAI	JP 1994-109259		19940524		
AB	<p>The compns., with good compatibility and improved shock resistance, comprise (A) 1-99 parts polyacetals contg. .gtoreq.10% branched polyacetals having OH content .gtoreq.25 mmol/kg and (B) 1-99 parts acid anhydride-modified polyolefins. Thus, 75 parts branched polyacetal (prepd. from trioxane 100, dioxolane 1.7, and glycerol formal 2.3 parts, OH 100 mmol/kg) and 25 parts maleated polypropylene (prepd. from 100 parts Hipol J 440 and 10 parts maleic anhydride) were melt-kneaded, pelletized, and injection-molded to give test pieces showing notched Izod impact strength 15.5 kg-cm/cm.</p>				
ST	polyacetal blend compatibility impact resistance; anhydride modified polyolefin blend polyacetal				
IT	<p>Impact-resistant materials (blends of polyacetals and acid-modified polyolefins with impact resistance)</p>				
IT	<p>Plastics RL: MSC (Miscellaneous) (blends of polyacetals and acid-modified polyolefins with impact resistance)</p>				
IT	<p>Glass fibers, uses Mica-group minerals, uses RL: MOA (Modifier or additive use); USES (Uses) (fillers; for blends of polyacetals and acid-modified polyolefins with impact resistance)</p>				
IT	<p>Esterification catalysts (for blends of polyacetals and acid-modified polyolefins)</p>				
IT	<p>Glass, oxide RL: MOA (Modifier or additive use); USES (Uses) (beads, fillers; for blends of polyacetals and acid-modified polyolefins with impact resistance)</p>				
IT	<p>Rubber, ethylene-propene RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses) (maleated, impact-resistant blends of polyacetals and acid-modified polyolefins)</p>				
IT	<p>Polyoxyalkylenes, preparation RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation) (polyolefin-, esters of hydroxy-contg. polyacetals and acid-modified polyolefins with impact resistance)</p>				
IT	<p>127-09-3, Sodium acetate 280-57-9, Triethylenediamine 57951-36-7, Dimethylaminopyridine RL: CAT (Catalyst use); USES (Uses) (esterification catalysts; for blends of polyacetals and acid-modified polyolefins)</p>				
IT	<p>108-31-6DP, 2,5-Furandione, reaction products with ethylene-propylene rubber RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses) (impact-resistant blends of polyacetals and acid-modified polyolefins)</p>				

IT * 174085-75-7P

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(impact-resistant blends of polyacetals and acid-modified polyolefins)

IT 9010-79-1P

RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP
(Preparation); USES (Uses)
(rubber, maleated, impact-resistant blends of polyacetals and
acid-modified polyolefins)

=>

L3 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2002 ACS

AN 1997:290446 CAPLUS

DN 126:264799

TI Toughened thermoplastic polymer compositions

IN Flexman, Edmund Arthur; Takahashi, Tatsuhiro; Kobayashi, Toshikazu

PA E.I. Du Pont De Nemours and Company, USA

SO PCT Int. Appl., 18 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C08L059-00

ICS C08K005-13

ICI C08L059-00, C08L025-18; C08L059-00, C08L061-04; C08L059-00, C08L073-00;

C08L059-00, C08L023-08; C08L059-00, C08L033-10; C08L059-00, C08L071-00

CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9709384	A1	19970313	WO 1996-US14307	19960906
	W: CA, JP				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 5817723	A	19981006	US 1996-708383	19960904
	CA 2231250	AA	19970313	CA 1996-2231250	19960906
	EP 848732	A1	19980624	EP 1996-930724	19960906
	EP 848732	B1	20010124		
	R: DE, FR, GB, IT, NL				
	JP 11512457	T2	19991026	JP 1996-511403	19960906
PRAI	US 1995-3649P	P	19950907		
	US 1996-708383	A	19960904		
	WO 1996-US14307	W	19960906		
AB	The title compns. comprise (a) 1-30% polar toughening agents [e.g., polyalkylene glycols, polar polyolefins, poly(Me vinyl ether), polyepichlorohydrin, nitrile rubber, acrylic rubber] compatibilized with polyphenols (e.g., novolak, polyvinylphenol), and (b) 70-99% .gtoreq.1 thermoplastic polymer [e.g., polyacetals , nylon 66, nylon 6, nylon 46, nylon 1212, nylon 612, arom. polyamides, poly (butylene terephthalate), PET, poly(ethylene naphthalate), poly(butylene naphthalate), arom. polyesters, polythiophenylenes, acrylic polymers, polypropylene, polyethylene, polycarbonates, polysulfones].				
ST	impact resistant molding thermoplastic resin; polyalkylene glycol toughening agent thermoplastic; polar polyolefin toughening agent thermoplastic; polymethyl vinyl ether toughening agent thermoplastic; polyepichlorohydrin toughening agent thermoplastic; nitrile rubber toughening agent thermoplastic; acrylic rubber toughening agent thermoplastic; polyphenol compatibilizer toughening agent thermoplastic				
IT	Polyamides, properties Polyesters, properties RL: POF (Polymer in formulation); PRP (Properties); USES (Uses) (arom.; toughened thermoplastic polymer compns.)				
IT	Phenolic resins, uses RL: MOA (Modifier or additive use); USES (Uses) (compatibilizers; toughened thermoplastic polymer compns.)				
IT	Phenolic resins, uses RL: MOA (Modifier or additive use); USES (Uses) (novolak, compatibilizers; toughened thermoplastic polymer compns.)				
IT	Polyethers, properties Polyethers, properties RL: POF (Polymer in formulation); PRP (Properties); USES (Uses) (polyester-; toughened thermoplastic polymer compns.)				
IT	Polyesters, properties Polyesters, properties Polyimides, properties Polyimides, properties Polysulfones, properties Polysulfones, properties RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)				

(polyether-; toughened thermoplastic polymer compns.)

IT Polyethers, properties
Polyethers, properties
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(polyimide-; toughened thermoplastic polymer compns.)

IT Polyethers, properties
Polyethers, properties
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(polysulfone-; toughened thermoplastic polymer compns.)

IT Molded plastics, properties
Molded plastics, properties
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(thermoplastics; toughened thermoplastic polymer compns.)

IT Impact-resistant materials
(toughened thermoplastic polymer compns.)

IT Acrylic polymers, properties
Liquid crystals, polymeric
Polyamides, properties
Polyamides, properties
Polycarbonates, properties
Polyesters, properties
Polyesters, properties
Polyoxymethylenes, properties
Polyoxyphenylenes
Polysulfones, properties
Polythiophenylenes
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(toughened thermoplastic polymer compns.)

IT Acrylic rubber
Nitrile rubber, uses
Polyolefins
Polyoxyalkylenes, uses
Polyoxyalkylenes, uses
Polysiloxanes, uses
RL: MOA (Modifier or additive use); USES (Uses)
(toughening agents; toughened thermoplastic polymer compns.)

IT 80-05-7, uses 92-88-6, [1,1'-Biphenyl]-4,4'-diol 9003-35-4,
Formaldehyde-phenol copolymer 9039-76-3, Butylphenol-
formaldehyde copolymer 9086-40-2, **Formaldehyde**
-octylphenol copolymer 59269-51-1, Polyvinylphenol
RL: MOA (Modifier or additive use); USES (Uses)
(compatibilizers; toughened thermoplastic polymer compns.)

IT 9003-18-3
RL: MOA (Modifier or additive use); USES (Uses)
(nitrile rubber, toughening agents; toughened thermoplastic polymer
compns.)

IT 9002-88-4, Polyethylene 9003-07-0, Polypropylene 9003-53-6,
Polystyrene 9016-80-2, Polymethylpentene 9020-32-0, Poly(ethylene
naphthalate) 9020-73-9 9052-39-5, Cyclohexane dimethylol-terephthalic
acid copolymer 9053-81-0 24936-74-1, Nylon 612 24968-12-5,
Poly(butylene terephthalate) 25038-54-4, Nylon 6, properties
25038-59-9, properties 26062-94-2, Poly(butylene terephthalate)
26098-55-5 32131-17-2, Nylon 66, properties 36348-71-7, Nylon 1212
36497-34-4 50327-22-5, Nylon 46 50327-77-0 51806-50-9 52309-38-3
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(toughened thermoplastic polymer compns.)

IT 9003-09-2, Poly(methyl vinyl ether) 24969-06-0, Polyepichlorohydrin
25322-68-3 51109-15-0, Butyl acrylate-ethylene-**glycidyl**
methacrylate copolymer 61843-70-7, Butyl acrylate-carbon
monoxide-ethylene copolymer
RL: MOA (Modifier or additive use); USES (Uses)
(toughening agents; toughened thermoplastic polymer compns.)

L3 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2002 ACS

AN 1997:12602 CAPLUS

DN 126:47990

TI Thermoplastic resin composition containing modified **polyacetal**

and manufacture thereof
 IN Kanai, Hiroyuki; Serizawa, Hajime; Matsushima, Mitsunori
 PA Polyplastics Co., Ltd., Japan; Kanai, Hiroyuki; Serizawa, Hajime;
 Matsushima, Mitsunori
 SO PCT Int. Appl., 128 pp.
 CODEN: PIXXD2
 DT Patent
 LA Japanese
 IC ICM C08L059-00
 ICS C08L051-08; C08L063-00; C08L101-00
 CC 37-6 (Plastics Manufacture and Processing)
 Section cross-reference(s): 35

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9634053	A1	19961031	WO 1995-JP2139	19951019
	W: BR, CN, KR, MX, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	JP 08302156	A2	19961119	JP 1995-129432	19950427
	JP 3159890	B2	20010423		
	JP 09048902	A2	19970218	JP 1995-218188	19950802
	JP 09095589	A2	19970408	JP 1995-276645	19950928
	JP 09095594	A2	19970408	JP 1995-276646	19950928
	JP 09118806	A2	19970506	JP 1995-284635	19951004
	JP 09124890	A2	19970513	JP 1995-291907	19951012
	EP 771848	A1	19970507	EP 1995-934836	19951019
	R: DE, FR, GB				
	BR 9508009	A	19970805	BR 1995-8009	19951019
	CN 1156469	A	19970806	CN 1995-194797	19951019
	US 5852135	A	19981222	US 1996-750523	19961212
	US 5852135	B1	20000509		
PRAI	JP 1995-129432	A	19950427		
	JP 1995-218188	A	19950802		
	JP 1995-233263	A	19950818		
	JP 1995-245363	A	19950829		
	JP 1995-276645	A	19950928		
	JP 1995-276646	A	19950928		
	JP 1995-284635	A	19951004		
	WO 1995-JP2139	W	19951019		

AB The resin compn. with improved impact resistance and compatibility comprises a thermoplastic resin and a modified **polyacetal** prepd. by introducing a residue of a polymerizable compd. having a functional group such as an epoxy, carboxyl or acid anhydride group in an amt. of 0.1 - 30% based on the **polyacetal** component. Various polymers are used as the thermoplastic resin, which include olefin and styrene polymers, polyesters and polyamides. Dry blending 95 parts Duracon M25 (**polyacetal**) with 5 parts [N-[4-(2,3-epoxypropoxy)-3,5-dimethylbenzyl]]acrylamide (AXE) and melt extruding with 0.1 part Perbutyl P gave a modified **polyacetal**. Injection-molded test pieces of a blend contg. this modified **polyacetal** (10 parts) and 90 parts Diamid L1801 exhibited weld strength 400 kg/cm² and weld elongation 25%.

ST modified **polyacetal** resin blend compatibilizer; thermoplastic resin modified polyaceta blend; acrylamide compd modified polyoxymethylene polyamide blend

IT Polyester rubber

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
 (Riteflex 635; modified **polyacetal** for thermoplastic resins with improved compatibility and impact resistance)

IT Ethylene-propylene rubber

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
 (Tafmer P 680; modified **polyacetal** for thermoplastic resins with improved compatibility and impact resistance)

IT Urethane rubber, properties

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
 (adipic acid-based, Miractran E 180; modified **polyacetal** for thermoplastic resins with improved compatibility and impact resistance)

IT Synthetic rubber, properties

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
 (azacyclotridecanone-polytetramethylene glycol, block, Daiamid E 40;
 modified **polyacetal** for thermoplastic resins with improved
 compatibility and impact resistance)

IT Polyester rubber
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
 (butanediol-polytetramethylene glycol-terephthalic acid, block, Hytrel
 4056; modified **polyacetal** for thermoplastic resins with
 improved compatibility and impact resistance)

IT Polyester rubber
 Synthetic rubber, properties
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
 (butanediol-polytetramethylene glycol-terephthalic acid, block, block,
 Hytrel 4056; modified **polyacetal** for thermoplastic resins
 with improved compatibility and impact resistance)

IT Styrene-butadiene rubber, properties
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
 (hydrogenated, block, triblock, maleated, Kraton FG 1901X; modified
polyacetal for thermoplastic resins with improved compatibility
 and impact resistance)

IT Ethylene-propylene rubber
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
 (maleated, N-Tafmer MP 620; modified **polyacetal** for
 thermoplastic resins with improved compatibility and impact resistance)

IT Impact strength
 Polymer blend compatibilizers
 (modified **polyacetal** for thermoplastic resins with improved
 compatibility and impact resistance)

IT Acrylic polymers, properties
 Acrylic rubber
 Fluoropolymers, properties
 Polyamides, properties
 Polycarbonates, properties
 Polyesters, properties
 Polymer blends
 Polyolefins
 Polyoxyphenylenes
 Polysulfones, properties
 Polyurethanes, properties
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
 (modified **polyacetal** for thermoplastic resins with improved
 compatibility and impact resistance)

IT Polyimides, properties
 Polyimides, properties
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
 (polyamide-; modified **polyacetal** for thermoplastic resins
 with improved compatibility and impact resistance)

IT Polyimides, properties
 Polyimides, properties
 Polysulfones, properties
 Polysulfones, properties
 Polysulfones, properties
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
 (polyether-; modified **polyacetal** for thermoplastic resins
 with improved compatibility and impact resistance)

IT Polyamides, properties
 Polyamides, properties
 Polyethers, properties
 Polyethers, properties
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
 (polyimide-; modified **polyacetal** for thermoplastic resins
 with improved compatibility and impact resistance)

IT Polyethers, properties
 Polyethers, properties
 Polyethers, properties
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
 (polysulfone-; modified **polyacetal** for thermoplastic resins

with improved compatibility and impact resistance)

IT Polyoxymethylenes, properties

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(reaction product with unsatd. acids or epoxy compds.; modified **polyacetal** for thermoplastic resins with improved compatibility and impact resistance)

IT 9003-56-9, ABS

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(DPT 611; modified **polyacetal** for thermoplastic resins with improved compatibility and impact resistance)

IT 127162-56-5P, Allyl methacrylate-butyl acrylate-1,4-butylene glycol diacrylate-ethyl acrylate-methyl methacrylate copolymer 147350-75-2P, Allyl methacrylate-butyl acrylate-1,4-butylene glycol diacrylate-ethyl acrylate-**glycidyl** methacrylate-methyl methacrylate copolymer 147350-76-3P, Allyl methacrylate-butyl acrylate-1,4-butylene glycol diacrylate-ethyl acrylate-2-hydroxyethyl methacrylate-methyl methacrylate copolymer 163073-46-9P, Allyl methacrylate-butyl acrylate-1,4-butylene glycol diacrylate-ethyl acrylate-methacrylamide-methyl methacrylate copolymer 184682-86-8P, Allyl methacrylate-butyl acrylate-1,4-butylene glycol diacrylate-ethyl acrylate-methacrylic acid-methyl methacrylate copolymer 184682-89-1P, Allyl methacrylate-butyl acrylate-1,4-butylene glycol diacrylate-ethyl acrylate-itaconic acid-methyl methacrylate copolymer

RL: PNU (Preparation, unclassified); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)
(core-shell polymer; modified **polyacetal** for thermoplastic resins with improved compatibility and impact resistance)

IT 9010-79-1

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(ethylene-propylene rubber, Tafmer P 680; modified **polyacetal** for thermoplastic resins with improved compatibility and impact resistance)

IT 9010-79-1D, maleated

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(maleated ethylene-propylene rubber, N-Tafmer MP 620; modified **polyacetal** for thermoplastic resins with improved compatibility and impact resistance)

IT 106-91-2DP, reaction products with **polyacetals** 106-92-3DP, Allyl **glycidyl** ether, reaction products with **polyacetals** 108-31-6DP, 2,5-Furandione, reaction products with **polyacetals**, preparation 111-38-6DP, Divinyl formal, reaction products with **polyacetals** 9002-81-7DP, **Formaldehyde** polymer, reaction product ethylenically unsatd. epoxy or acid compds. 13670-33-2DP, 2-Vinyl-2-oxazoline, reaction products with **polyacetals** 24969-26-4DP, 1,3-Dioxolane-trioxane copolymer, reaction product ethylenically unsatd. epoxy or acid compds. 99431-43-3DP, AXE, reaction products with **polyacetals** 112487-25-9DP, Duracon M 25, reaction product ethylenically unsatd. epoxy or acid compds.

RL: PNU (Preparation, unclassified); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)
(modified **polyacetal** for thermoplastic resins with improved compatibility and impact resistance)

IT 101-68-8D, polyurethanes 9002-86-2, PVC 9002-88-4, Rexlon W 3300 9003-07-0, Noblen D 501 9003-53-6, Polystyrene 9011-13-6D, Maleic anhydride-styrene copolymer, rubber-modified 9011-14-7, Sumipex LG 6 9059-69-2, Butanediol-isophthalic acid-terephthalic acid copolymer 24936-68-3, Bisphenol A polycarbonate, properties 24937-16-4, Daiamid L 1801 25037-45-0 25086-15-1, Methacrylic acid-methyl methacrylate copolymer 26061-90-5, Bondfast 2C 55097-77-3 83138-12-9, Dylark 250 153700-46-0, Youmex 1001 178412-25-4, R 80 (Vinyl polymer) 184851-90-9, DPT 651 184852-20-8, N-Tafmer TX 436 184852-24-2, XET 880D10

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(modified **polyacetal** for thermoplastic resins with improved compatibility and impact resistance)

IT 9003-55-8

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(styrene-butadiene rubber, hydrogenated, block, triblock, maleated,
Kraton FG 1901X; modified **polyacetal** for thermoplastic resins
with improved compatibility and impact resistance)

L3 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2002 ACS
AN 1994:78579 CAPLUS
DN 120:78579
TI Lubricated **polyacetal** compositions
IN Takahashi, Tatsuhiro; Kobayashi, Toshikazu
PA du Pont de Nemours, E. I., and Co., USA
SO PCT Int. Appl., 17 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C10M
CC 37-6 (Plastics Manufacture and Processing)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9311206	A2	19930610	WO 1992-US9982	19921118
	WO 9311206	A3	19930819		
	W: BR, CA, JP, KR, RU				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, SE				
	EP 613488	A1	19940907	EP 1992-925332	19921118
	EP 613488	B1	19960821		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, SE				
	JP 07502768	T2	19950323	JP 1992-510160	19921118
	AT 141633	E	19960915	AT 1992-925332	19921118
	JP 3238702	B2	20011217	JP 1993-510160	19921118
PRAI	US 1991-795951	A	19911121		
	WO 1992-US9982	W	19921118		
AB	Incorporating .gtoreq.1 lubricant and an ethylene-alkyl acrylate-epoxy compd. copolymer into polyacetal compns. gives product with good wear resistance and melt processing stability for use in moldings for sliding applications, gears, cams, and conveyor chains. A compn. contg. polyoxymethylene 94.7, ethylene- glycidyl methacrylate copolymer(I) 2.5, and paraffin wax 2.0% showed dynamic friction coeff. 0.2-0.25, wear (JIS K7218A) <1 mg, and thermal evolved formaldehyde after 30 min 0.10%; vs. 0.2-0.25, <1, and 0.61, resp., using ethylene-vinyl acetate resin instead of I.				
ST	paraffin wax lubricant polyoxymethylene; glycidyl methacrylate copolymer blend polyoxymethylene; ethylene copolymer blend polyoxymethylene; acrylate copolymer blend polyoxymethylene; polyoxymethylene wear heat resistance				
IT	Polyoxymethylenes, miscellaneous RL: MSC (Miscellaneous) (contg. lubricants and ethylene- glycidyl methacrylate copolymer, with heat and wear resistance)				
IT	Lubricants Paraffin waxes and Hydrocarbon waxes, uses Siloxanes and Silicones, uses RL: USES (Uses) (polyacetal contg. ethylene- glycidyl methacrylate copolymer and, with heat and wear resistance)				
IT	Gears Pipes and Tubes Plastics, film RL: USES (Uses) (polyoxymethylene blend for manufg. heat and wear resistant)				
IT	Plastics, molded RL: USES (Uses) (polyoxymethylene blend with ethylene- glycidyl methacrylate copolymer, contg. lubricant, with heat and wear resistance)				
IT	Conveyors (belts, chains for, polyoxymethylene blends for manufg. heat- and wear-resistant)				

IT Belts
(conveyor, chains for, polyoxymethylene blends for manufg. heat- and wear-resistant)

IT Amides, uses
Esters, uses
RL: USES (Uses)
(fatty, **polyacetal** contg. ethylene-**glycidyl** methacrylate copolymer and, with heat and wear resistance)

IT 110-30-5 627-83-8, Ethylene glycol distearate 25190-06-1, Polytetramethylene glycol 25322-68-3, Polyethylene glycol 25322-69-4, Polypropylene glycol
RL: USES (Uses)
(**polyacetal** contg. ethylene-**glycidyl** methacrylate copolymer and, with heat and wear resistance)

IT 26061-90-5, Ethylene-**glycidyl** methacrylate copolymer
51109-15-0, Butyl acrylate-ethylene-**glycidyl** methacrylate copolymer
RL: USES (Uses)
(**polyacetal** contg. lubricant and, with heat and wear resistance)

L3 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2002 ACS
AN 1992:256829 CAPLUS
DN 116:256829

TI **Polyacetal** compositions
IN Hanezawa, Hiroshi; Ono, Yasuhiro
PA Asahi Chemical Industry Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF

DT Patent
LA Japanese
IC ICM C08G002-38
ICS C08L059-00
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 35

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03292314	A2	19911224	JP 1990-93069	19900410
AB	<p>Title compns., with antifriction and abrasion resistance properties, comprise 100 parts polyacetal block polymers contg. oxymethylene repeating unit with one end capped with R2O[(CRR1)mO]n [R, R1 = H, alkyl, (substituted) alkyl, (substituted) aryl; R2 = (substituted) alkyl, (substituted) aryl; m = 2-6; n = 1-1000], 0.5-25 parts copolymers of .alpha.-olefins (e.g., ethylene) and glycidyl esters of .alpha.,.beta.-unsatd. acids grafted or crosslinked with (co)polymers contg. repeating unit CH2CR3X [R3 = H, lower alkyl; X = CO2Me, CO2Et, CO2C4H9, CO2CH2CHEt(C4H9), Ph, CN], and .ltoreq.20 parts R6O[(CR4R5)pO]qH [R4, R5 = H, (substituted) alkyl; R6 = (substituted) hydrocarbyl, aliph. acyl, arom. acyl; p = 2-6; q = 0-2000]. Thus, a cylinder with outer diam. 26 mm, inner diam. 20 mm, and depth 17 mm molded from a blend of polyoxymethylene acetylated at one end and capped with a polyoxypropylene stearyl ether block at the other end 100, acrylonitrile-ethylene-glycidyl methacrylate-styrene graft copolymer 5, and polyoxyethylene monostearyl ether 3 parts showed friction coeff. [against Tenac 4510 (polyacetal copolymer) at surface pressure 2 kg/cm2 and linear velocity 1.2-70 cm/s] 0.1 and 0.15 [against S45C at surface pressure 10 kg/cm2 and linear velocity 1.2-70 cm/s], abrasion loss (.times. 10-7 g/m) 2.5 of mate and 2.5 of self against Tenac 4510 and 0 of mate and 0.2 of self against S45C, vs. 0.46, 0.31, 35.5, 25.2, 0, and 43.5, resp., for a control contg. Tenac 5010 in place of the polyacetal block copolymer.</p>				
ST	<p>polyacetal block polymer abrasion resistance; antifriction polyacetal block polymer; formaldehyde alkoxylated alc block copolymer; olefin glycidyl ester copolymer; polyoxyalkylene polyacetal block polymer</p>				
IT	Antifriction materials				

(blends of polyoxymethylene-polyoxyalkylene block copolymers and graft olefin copolymers and polyoxyalkylenes, abrasion-resistant)

IT Abrasion-resistant materials
(blends of polyoxymethylene-polyoxyalkylene block copolymers and graft olefin copolymers and polyoxyalkylenes, antifriction)

IT Plastics, molded
RL: USES (Uses)
(blends of polyoxymethylene-polyoxyalkylene block copolymers and graft olefin copolymers and, abrasion-resistant, antifriction)

IT Polyoxyalkylenes, uses
RL: USES (Uses)
(alkyl group-terminated, blends with polyoxymethylene-polyoxyalkylene block copolymers and graft olefin copolymers, abrasion-resistant, antifriction)

IT Alkenes, polymers
RL: USES (Uses)
(polymers, with ethylene and **glycidyl** methacrylate, graft polymers with styrene, polyoxymethylene compns. contg., abrasion-resistant, antifriction)

IT Polyoxymethylenes, uses
RL: USES (Uses)
(polyoxyalkylene-, block, blends with graft olefin copolymers and polyoxyalkylenes, abrasion-resistant, antifriction)

IT Polyoxyalkylenes, uses
RL: USES (Uses)
(polyoxymethylene-, block, blends with graft olefin copolymers and polyoxyalkylenes, abrasion-resistant, antifriction)

IT 141668-66-8D, acetyl-terminated
RL: USES (Uses)
(blends with graft olefin copolymers and polyoxyalkylenes, abrasion-resistant, antifriction)

IT 9005-00-9 25231-21-4, Polyoxypropylene monostearyl ether
RL: USES (Uses)
(blends with polyoxymethylene-polyoxypropylene block copolymers and graft olefin copolymers, abrasion-resistant, antifriction)

IT 74-85-1D, Ethylene, polymers with .alpha.-olefins and **glycidyl** methacrylate, graft polymers with styrene 100-42-5D, graft polymers with ethylene-.alpha.-olefin-**glycidyl** methacrylate copolymers 106-91-2D, polymers with ethylene and .alpha.-olefins, graft polymers with styrene 116770-96-8 117091-81-3, Ethylene-**glycidyl** methacrylate-styrene copolymer, graft 118497-09-9 127115-40-6
RL: USES (Uses)
(blends with polyoxymethylene-polyoxypropylene block copolymers and polyoxyalkylenes, abrasion-resistant, antifriction)

L3 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2002 ACS

AN 1991:248490 CAPLUS

DN 114:248490

TI Acetal copolymers and their preparation

IN Sone, Tatsuo; Hata, Tadashige; Matsuzaki, Kazuhiko

PA Asahi Chemical Industry Co., Ltd., Japan

SO PCT Int. Appl., 57 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM C08L059-00

ICS C08G002-08

CC 37-3 (Plastics Manufacture and Processing)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9015842	A1	19901227	WO 1990-JP792	19900618
	W: CA, KR, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, IT, LU, NL, SE				
	JP 03021658	A2	19910130	JP 1989-154647	19890619
	JP 06081800	B4	19941019		
	JP 03070722	A2	19910326	JP 1989-206619	19890811

	JP 06086508	B4	19941102		
	JP 03203919	A2	19910905	JP 1989-342941	19891229
	JP 3028235	B2	20000404		
	JP 03265615	A2	19911126	JP 1990-62514	19900315
	JP 03265616	A2	19911126	JP 1990-62515	19900315
	CA 2034505	AA	19901220	CA 1990-2034505	19900618
	EP 429672	A1	19910605	EP 1990-909367	19900618
	EP 429672	B1	19960327		
	R: DE, FR, GB, NL				
	US 5306769	A	19940426	US 1991-656062	19910219
PRAI	JP 1989-154647	A	19890619		
	JP 1989-206619	A	19890811		
	JP 1989-342941	A	19891229		
	JP 1990-62514	A	19900315		
	JP 1990-62515	A	19900315		
	WO 1990-JP792	W	19900618		
AB	<p>Acetal copolymers having viscosity 0.1-10 dL/g and showing uniform mech. properties without impairing impact resistance comprise units of polyacetal and units of crosslinked polymer fine particles having av. particle diam. (d) 0.01-10 .mu.m and functional groups selected from OH, CO₂H, NH₂, amide, alkoxy, acid anhydride, and epoxy groups. The polyacetal and the crosslinked polymer are linked together through the functional groups. Thus, feeding 2000 g HCHO per h and 0.30 g tetrabutylammonium acetate as polymn. catalyst per h into a suspension of 1060 g Bu acrylate-styrene-diethylene glycol diacrylate-2-hydroxyethyl methacrylate copolymer (I) fine particles (d 0.21 .mu.m) in 10 L cyclohexane at 50.degree. for 1 h gave a graft copolymer with I component content 33% and viscosity 2.8 dL/g. Test pieces prepd. from this graft copolymer had tensile strength 288/292 kg/cm² (welded portion/nonwelded portion), elongation 59/67% (welded portion/nonwelded portion), and Izod impact strength 63 kg-cm/cm; vs. 189/290, 7/64, and 17, resp. without using 2-hydroxyethyl methacrylate as a grafting agent in the polymn.</p>				
ST	<p>acetal graft copolymer prepn; butyl acrylate graft copolymer prepn; styrene graft copolymer prepn; hydroxyethyl methacrylate graft copolymer prepn; diethylene glycol diacrylate graft copolymer; impact resistance acetal graft copolymer</p>				
IT	<p>Polyoxymethylenes, preparation RL: PREP (Preparation) (polycarbonate-, graft, prepn. of, with improved mech. and impact strength)</p>				
IT	<p>Polycarbonates, preparation Polyoxyphenylenes Urethane polymers, preparation RL: PREP (Preparation) (polyoxymethylene-, graft, prepn. of, with improved mech. and impact strength)</p>				
IT	<p>Polyoxymethylenes, preparation RL: PREP (Preparation) (polyoxyphenylene-, graft, prepn. of, with improved mech. and impact strength)</p>				
IT	<p>Polyoxymethylenes, preparation RL: PREP (Preparation) (polyurethane-, graft, prepn. of, with improved mech. and impact strength)</p>				
IT	<p>50-00-ODP, Formaldehyde, graft polymers with vinyl alc. and hydrogenated butadiene-styrene copolymer 107-18-6DP, 2-Propen-1-ol, graft polymers with formaldehyde and hydrogenated butadiene-styrene copolymer 9003-55-8DP, hydrogenated, graft polymers with allyl alc. and formaldehyde 134158-37-5P, Butyl acrylate-styrene-diethylene glycol diacrylate-2-hydroxyethyl methacrylate-formaldehyde graft copolymer 134158-38-6P 134158-39-7P 134182-53-9P, 2-Hydroxyethyl methacrylate-ethylene-propylene-formaldehyde graft copolymer 134182-54-0P, Ethylene-propylene-dicyclopentadiene-formaldehyde graft copolymer 134182-55-1P, Ethylene-acrylic acid-formaldehyde graft copolymer 134182-56-2P, Butadiene-styrene-maleic anhydride-formaldehyde graft copolymer 134182-57-3P, Ethylene-allyl alcohol-</p>				

formaldehyde graft copolymer 134182-58-4P, Ethylene-propylene-
glycidyl methacrylate-formaldehyde graft copolymer
 134182-59-5P, Butylene glycol-terephthalic acid-tetramethylene glycol-
formaldehyde graft copolymer 134182-60-8P, Nylon 6-propylene
 glycol-**formaldehyde** graft copolymer 134182-61-9P,
 MDI-tetramethylene glycol-**formaldehyde** graft copolymer
 134182-62-0P, Ethylene glycol-terephthalic acid-**formaldehyde**
 graft copolymer 134182-63-1P, Butylene glycol-terephthalic acid-
formaldehyde graft copolymer 134182-64-2P, Butyl
 acrylate-styrenemethyl methacrylate-2-hydroxyethyl methacrylate-
formaldehyde graft copolymer 134182-65-3P, Butyl
 acrylate-styrene-acrylic acid-**formaldehyde** graft copolymer
 134182-66-4P, Butyl acrylate-styrene-m-aminostyrene-**formaldehyde**
 graft copolymer 134182-67-5P, 2-Ethylehexyl acrylate-acrylamide-
formaldehyde graft copolymer 134182-68-6P, Butadiene-styrene-
 methoxyvinyl-**formaldehyde** graft copolymer 134182-69-7P
 134182-70-0P 134182-71-1P, Butadiene-styrene-acrylonitrile-maleic acid-
formaldehyde graft copolymer 134182-72-2P, Ethyl
 acrylate-styrene-methoxyethyl methacrylate-**formaldehyde** graft
 copolymer 134182-73-3P, Methyl methacrylate-methylacrylamide-
formaldehyde graft copolymer 134182-74-4P, Butyl acrylatemethyl
 methacrylate-2-hydroxyethyl methacrylate-**formaldehyde** graft
 copolymer 134182-75-5P 134213-34-6P

RL: PREP (Preparation)

(prepn. of, with improved mech. and impact strength)

L3 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2002 ACS

AN 1989:58841 CAPLUS

DN 110:58841

TI Glass-reinforced **polyacetal** compositions with improved thermal
 stability during processing

IN Wagman, Mark Elliot

PA du Pont de Nemours, E. I., and Co., USA

SO Eur. Pat. Appl., 22 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM C08L059-00

ICS C08K009-04

ICI C08L059-00, C08L063-00

CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 281148	A2	19880907	EP 1988-103355	19880304
	EP 281148	A3	19900704		
	R: DE, FR, GB, IT, NL				
	US 5030668	A	19910709	US 1987-23064	19870306
	JP 63254158	A2	19881020	JP 1988-49902	19880304
PRAI	US 1987-23064		19870306		

AB Thermally evolved HCHO amt. (TEF) is reduced for HCHO homo- and copolymers
 contg. polyurethane-coated glass fiber reinforcement during processing by
 addn. of 0.02-1% epoxy resins. Thus, acetate-end-capped
polyformaldehyde pellets contg. 25% 10-.mu.m-diam., 0.12-in.-long
 glass fibers coated with butanediol-1,6-hexane diisocyanate-poly(butylene
 adipate)-polyethylene glycol copolymer having minor concns. of aliph.
 hydrocarbons, silanes, and ethylene glycol **diglycidyl** ether, 1%
 nylon 66-nylon 610-nylon 6 adduct costabilizer, 0.1% triethylene glycol
 bis[3-(3-t-butyl-4-hydroxy-5-methylphenyl)propionate] antioxidant, and
 0.2% HCHO-PhOH novolak **polyglycidyl** ether (I) exhibited TEF
 1.33% after 30 min at 259.degree. and were injection-molded to give a
 sample with tensile strength 1200 kg/cm²; similar pellets not contg. I
 exhibited TEF 2.45% and produced an injection molding with tensile
 strength 1140kg/cm².

ST glass reinforced **polyacetal** thermal stability;
formaldehyde evolution prevention **polyformaldehyde**
 processing; epoxy resin **formaldehyde** evolution preventer

IT Epoxy resins, uses and miscellaneous
 RL: USES (Uses)
 (glass fiber-reinforced **polyacetals** contg., for
formaldehyde evolution prevention during processing)

IT Polyoxymethylenes, uses and miscellaneous
 RL: USES (Uses)
 (glass fiber-reinforced, **formaldehyde** evolution prevention
 during processing of, epoxy resins for)

IT Glass fibers, uses and miscellaneous
 RL: USES (Uses)
 (polyurethane-coated, **polyacetals** reinforced by,
formaldehyde evolution prevention during processing of, epoxy
 resins for)

IT Polyoxymethylenes, compounds
 RL: USES (Uses)
 (acetate-terminated, glass fiber-reinforced, **formaldehyde**
 evolution prevention during processing of, epoxy resins for)

IT Phenolic resins, uses and miscellaneous
 RL: USES (Uses)
 (epoxy, glass fiber-reinforced **polyacetals** contg., for
formaldehyde evolution prevention during processing)

IT Epoxy resins, uses and miscellaneous
 RL: USES (Uses)
 (phenolic, glass fiber-reinforced **polyacetals** contg., for
formaldehyde evolution prevention during processing)

IT 2386-87-0, 3,4-Epoxy cyclohexylmethyl 3,4-epoxycyclohexanecarboxylate
 9003-35-4D, **Formaldehyde**-phenol copolymer, **glycidyl**
 ethers 9016-83-5D, Cresol-**formaldehyde** copolymer,
glycidyl ethers 25068-38-6, Bisphenol A-epichlorohydrin
 copolymer 26142-30-3 30327-78-7
 RL: USES (Uses)
 (glass fiber-reinforced **polyacetals** contg., for prevention of
formaldehyde evolution during processing)

IT 25266-14-2, Ethylene oxide-**formaldehyde** copolymer
 RL: USES (Uses)
 (glass fiber-reinforced, **formaldehyde** evolution prevention in
 processing of, epoxy resins for)

IT 50-00-0, **Formaldehyde**, uses and miscellaneous
 RL: USES (Uses)
 (prevention of evolution of, in processing of glass fiber-reinforced
polyacetals, by epoxy resins)

L3 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2002 ACS

AN 1982:511221 CAPLUS

DN 97:111221

TI Crease-resistance treatments of cotton fabrics with
nonformaldehyde crosslinking agents

AU Yamamoto, Kazuhide

CS Daido-Maruta Finish. Co., Ltd., Kyoto, Japan

SO Text. Res. J. (1982), 52(6), 357-62

CODEN: TRJOA9; ISSN: 0040-5175

DT Journal

LA English

CC 40-9 (Textiles)

AB Of the various **nonformaldehyde** crosslinking agents glyoxal (I)
 [107-22-2], **polyacetal** (II), bis(2-hydroxyethyl) sulfone (III)
 [2580-77-0], propylene glycol **diglycidyl** ether (IV)
 [16096-30-3] and glyoxal adducts of urea and its derivs.
 4,5-dihydroxy-1,3-dimethylethyleneurea (V) [3923-79-3] and
 4,5-dihydroxy-1,3-bis(2-hydroxyethyl)ethyleneurea (VI) [60354-26-9] were
 the most promising for practical use. Cotton fabrics treated with I and
 II had excellent light fastness and good resistance to Cl scorch but had a
 great loss of tensile strength, poor whiteness, and low wet crease
 recovery angle. Fabrics treated with III increased dry and wet crease
 recovery angles but decrease whiteness. Fabrics treated with IV had the
 lowest level of dry crease recovery angle and the lowest retention tensile
 strength among the treated fabrics. Excellent whiteness, good resistance

to Cl damage, and good retention of tensile strength was imparted to the
 fabrics treated with V and VI. Considerable improvement of wet and dry
 crease recovery angles were obtained with level of improvement somewhat
 lower with VI than with V.
 ST creaseproofing cotton **nonformaldehyde** crosslinking; durable
 press cotton **nonformaldehyde** crosslinking
 IT Creaseproofing
 (of cotton textiles, with **nonformaldehyde** crosslinking
 agents)
 IT Creasing
 (durable-press, of cotton textiles, with **nonformaldehyde**
 crosslinking agents)
 IT 107-22-2 107-22-2D, reaction products with pentaerythritol 115-77-5D,
 reaction products with glyoxal 1854-26-8 2580-77-0 3720-97-6
 3923-79-3 16096-30-3 60354-26-9 82882-04-0
 RL: USES (Uses)
 (crease-resistant finishing by, of cotton textile)

L3 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2002 ACS
 AN 1970:101554 CAPLUS
 DN 72:101554
 TI **Polyacetal** hot-melt adhesives
 PA Farbwerke Hoechst A.-G.
 SO Fr. Demande, 9 pp.
 CODEN: FRXXBL
 DT Patent
 LA French
 IC C09J; C08G
 CC 37 (Plastics Fabrication and Uses)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2003264		19691107		
PRAI	DE		19680305		
AB	Compns. contg. homopolymers of HCHO or trioxane (I) with esterified or etherified terminal groups, or copolymers of HCHO or trioxane with cyclic ethers, formals, and (or) glycidyl ethers, are used as hot-melt adhesives for textiles, wood, and paper. The compns. have good flow properties and are resistant to solvents and alkali. Thus, 140 cm ² of a fabric was coated with 1 g of a 49:1 I-ethylene oxide (II) copolymer reduced viscosity 0.78 as a 0.5 g/100 ml soln. in butyr o-lactone at 140.degree.). The fabric was bonded under light pressure at 220.degree. with a 2nd piece of the same size to give a bond which was resistant to washing at pH 7-10 and 100.degree. and drycleaning in ClCH:CCl ₂ at 87.degree.. Kraft paper and fabrics were similarly bonded by using a poly(oxymethylene) with acetylated terminal groups, a I-1,3-dioxolane copolymer, a I-II-hexanetriol triformal terpolymer, a I-II-1,4-butanediol diglycidyl ether terpolymer, or a I-1,3-dioxolane-1,4-butanediol formal terpolymer, optionally in CH ₂ Cl ₂ soln.				
ST	adhesives hot melt; hot melt adhesives; trioxane copolymers adhesives; textile adhesives; paper adhesives; polyacetals adhesives; ethylene oxide copolymers adhesives; formals copolymers adhesives; formaldehyde polymers adhesives				
IT	Polyoxymethylenes, uses and miscellaneous RL: TEM (Technical or engineered material use); USES (Uses) (adhesives, hot-melt)				
IT	Adhesives, preparation (polyoxymethylenes, hot-melt)				
IT	24969-25-3	24969-26-4	27082-00-4	27082-01-5	
	RL: TEM (Technical or engineered material use); USES (Uses) (adhesives, hot-melt)				

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L13 ANSWER 1 OF 25 CAPLUS COPYRIGHT 2002 ACS
 AN 2001:651430 CAPLUS
 DN 135:211787
 TI Manufacture of modified polyacetals useful for compatibilizers
 IN Kawaguchi, Kuniaki
 PA Polyplastics Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C08G002-22
 CC 37-6 (Plastics Manufacture and Processing)
 FAN.CNT 1

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 6
 (21)
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	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001240640	A2	20010904	JP 2000-55344	20000301
AB	The polymers are manufd. by reaction of mixts. contg. (A) 0.001-20 parts glycidyl compds., (B) 0.0005-5 parts low-mol.-wt. acetals, and (C) cationic polymn. catalysts and further polymn. with (D) 100 parts trioxane or mixts. contg. D and (E) 0.1-20 parts cyclic ethers and/or cyclic formals. Thus, a polymn. product of a compn. contg. 2-ethylhexyl glycidyl ether 3.5, methylal 0.1, and boron trifluoride di-Bu etherate 0.01 part was reacted with 3.3 parts 1,3-dioxolane and 100 parts trioxane to give a copolymer, which was mixed with additives and injection-molded to give a test piece showing good impact resistance. A compn. contg. the polymer, a polyacetal, and ethylene-Et acrylate copolymer showed good compatibility.				
ST	polyacetal modified compatibilizer impact resistance; ethylhexyl glycidyl methylal dioxolane trioxane polymer; boron fluoride butyl etherate cationic polymn catalyst				
IT	Polymerization catalysts (cationic; manuf. of modified polyacetals useful for compatibilizers)				
IT	Impact-resistant materials Polymer blend compatibilizers (manuf. of modified polyacetals useful for compatibilizers)				
IT	Polyethers, preparation RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (manuf. of modified polyacetals useful for compatibilizers)				
IT	593-04-4, Boron trifluoride dibutyl etherate 7637-07-2, Boron trifluoride, uses RL: CAT (Catalyst use); USES (Uses) (manuf. of modified polyacetals useful for compatibilizers)				
IT	357914-23-9P RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (manuf. of modified polyacetals useful for compatibilizers)				
IT	357914-24-0P RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (manuf. of modified polyacetals useful for compatibilizers)				
IT	78623-05-9P 89054-18-2P RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent) (manuf. of modified polyacetals useful for compatibilizers)				
IT	9010-86-0, Ethylene-ethyl acrylate copolymer RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses) (manuf. of modified polyacetals useful for compatibilizers)				

L13 ANSWER 2 OF 25 CAPLUS COPYRIGHT 2002 ACS
 AN 2001:21390 CAPLUS
 DN 134:72421
 TI Branched polyacetal compositions
 IN Tajima, Yoshihisa; Ohkawa, Hidetoshi; Kawaguchi, Kuniaki
 PA Polyplastics Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08L059-04
ICS C08K003-00; C08K005-00; C08G002-22
CC 37-6 (Plastics Manufacture and Processing)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001002887	A2	20010109	JP 1999-177270	19990623
AB	The title compns., with good rigidity, surface hardness, and sliding property, comprise (a) 100 parts branched polyacetals contg. branched unit -(CH ₂)mCHR(CH ₂)nO- (m,n = 0-5; R = org. group with mol. wt. 40-1000) (e.g., copolymer of trioxane 100, ethylene oxide or 1,3-dioxolane 0-20, and monoglycidyl compds. such as Bu glycidyl ether, 2-ethylhexyl glycidyl ether, phenol glycidyl ether, o-phenylphenol glycidyl ether, or glycidyl stearate 0.001-10 parts) and (b) 0.002-5 parts crystal nucleating agents (e.g., butanediol diglycidyl ether-1,3-dioxolane-trioxane copolymer, talc, CaCO ₃).				
ST	rigidity branched polyacetal nucleation agent; surface hardness branched polyacetal nucleation agent; sliding property branched polyacetal nucleation agent; trioxane monoglycidyl compd				
IT	dioxolane copolymer polyacetal; talc crystal nucleating agent branched polyacetal; calcium carbonate crystal nucleating agent branched polyacetal				
IT	Crystal nucleating agents				
	Hardness (mechanical)				
	Tensile strength				
	(branched polyacetal compns.)				
IT	Polymer blends				
	RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)				
	(branched polyacetal compns.)				
IT	31075-01-1, 1,3-Dioxolane-phenyl glycidyl ether- trioxane copolymer 256337-60-7, 1,3-Dioxolane-o-phenylphenol glycidyl ether- trioxane copolymer 256337-65-2, Butyl glycidyl ether-1,3-dioxolane-trioxane copolymer 256337-66-3, 1,3-Dioxolane-2-ethylhexyl glycidyl ether- trioxane copolymer 262852-16-4, 1,3-Dioxolane- glycidyl stearate- trioxane copolymer 314262-85-6, Butyl glycidyl ether-ethylene oxide- trioxane copolymer				
	RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)				
	(branched polyacetal compns.)				
IT	471-34-1, Calcium carbonate (CaCO ₃), uses 14807-96-6, Talc, uses 41258-95-1, Butanediol diglycidyl ether-1,3-dioxolane-trioxane copolymer				
	RL: MOA (Modifier or additive use); USES (Uses)				
	(crystal nucleating agents; branched polyacetal compns.)				

L13 ANSWER 3 OF 25 CAPLUS COPYRIGHT 2002 ACS
AN 1997:802201 CAPLUS
DN 128:102958
TI Polyacetal compositions and their hollow moldings with improved impact resistance and blow-moldability
IN Kawakuchi, Kuniaki; Yamamoto, Kaoru
PA Polyplastics Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08L059-00
ICS C08L059-00; C08L023-06; C08L023-12
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09324106	A2	19971216	JP 1996-145724	19960607
	JP 3115533	B2	20001211		

AB The compns. with good appearance contain (a) 90-99.5% branched or crosslinked polyacetals having melt index (MI) 0.05-1.8 g/10 min (190.degree., 2160 g) and (b) 0.5-10% cylindrically-dispersed polyolefins. The hollow moldings are obtained by blow-molding of the above compns. Thus, 99% polyacetals [MI 1.0 g/10 min, prepd. by polymn. of trioxane contg. 3.3% 1,3-dioxolane (comonomer components), 0.05% 1,4-butanediol diglycidyl ether (crosslinking components), and 0.04% methylal (mol. wt. control agents)] and 1% Idemitsu Polyethylene 530B (high-d.) were melt-kneaded and pelletized to give a test piece showing melt tensile 6.8 g at 190.degree. and cylindrical dispersion, which was blow-molded to give a hollow molding showing good appearance and impact resistance.

ST polyacetal compn hollow molding blow moldability; trioxane copolymer polyethylene **blend** appearance

IT Molding of plastics and rubbers
(blow, hollow moldings; polyacetal compns. and their hollow moldings prepd. by polymer **blends** with good impact resistance)

IT Impact-resistant materials
(polyacetal compns. and their hollow moldings prepd. by polymer **blends** with good impact resistance)

IT Linear low density polyethylenes
Polyoxyalkylenes, properties
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(polyacetal compns. and their hollow moldings prepd. by polymer **blends** with good impact resistance)

IT Polymer **blends**
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(polyacetal compns. and their hollow moldings prepd. by polymer **blends** with good impact resistance)

IT 9010-86-0, Ethyl acrylate-ethylene copolymer
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(NUC Copolymer DPDJ 6169; polyacetal compns. and their hollow moldings prepd. by polymer **blends** with good impact resistance)

IT 41258-95-1P, 1,4-Butanediol diglycidyl ether-1,3-dioxolane-trioxane copolymer 175018-94-7P, 1,3-Dioxolane-hexamethylene glycol **diglycidyl ether-trioxane** copolymer
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyacetal compns. and their hollow moldings prepd. by polymer **blends** with good impact resistance)

IT 9002-88-4, Polyethylene 25085-53-4, Noblen X 101A 180032-33-1, UF 421
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(polyacetal compns. and their hollow moldings prepd. by polymer **blends** with good impact resistance)

L13 ANSWER 4 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 1997:699322 CAPLUS

DN 128:23640

TI Polyacetal compositions and their moldings with good impact resistance, melt tension, and moldability

IN Kawaguchi, Kuniaki; Yamamoto, Kaoru

PA Polyplastics Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08L059-04

ICS B29C047-00; B29C049-00; C08G002-10; C08L059-04; C08L023-26; B29K059-00

CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI JP 09278983 A2 19971028 JP 1996-91196 19960412
 JP 3169548 B2 20010528

AB Title compns. comprise (A) 90-99.9% branched or crosslinked polyacetals and (B) 0.1-10% ionomers from copolymers contg. olefins and .alpha.,.beta.-unsatd. carboxylic acids. Hollow moldings are obtained by blow-molding the above compns. Moldings manufd. by extrusion-molding the above compns., are also claimed. Thus, 99% polyacetal (prepd. from trioxane, 3.3% 1,3-dioxolane, and 0.05% 1,4-butanediol diglycidyl ether; contg. Irganox 1010 and melamine as additives) and 1% 95:5 ethylene-methacrylic acid copolymer Zn salt (neutralization degree 25%) were mixed, melt-kneaded, extruded, and cut to give pellets (melt tension 7.1 g), which were blow-molded to form a water bottle-shaped container with good impact resistance and appearance.

ST ionomer polyacetal **blend** molding; impact resistance polyacetal **blend**; moldability polyacetal **blend**

IT Extrusion of plastics and rubbers
 (blow; polyacetal compns. with good impact resistance, melt tension, and moldability, and their moldings)

IT Polyoxymethylenes, preparation
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (crosslinked; polyacetal compns. with good impact resistance, melt tension, and moldability, and their moldings)

IT Extrusion of plastics and rubbers
 Impact-resistant materials
 (polyacetal compns. with good impact resistance, melt tension, and moldability, and their moldings)

IT Ionomers
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyacetal compns. with good impact resistance, melt tension, and moldability, and their moldings)

IT 41258-95-1P, 1,4-Butanediol diglycidyl ether-1,3-dioxolane-trioxane copolymer 175018-93-6P, 1,3-Dioxolane-propylene glycol **diglycidyl ether-trioxane** copolymer 175018-94-7P, 1,3-Dioxolane-hexamethylene glycol **diglycidyl ether-trioxane** copolymer 199284-60-1P, 1,3-Dioxolane-glycerin-propylene oxide (1:3) adduct-trioxane copolymer
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyacetal compns. with good impact resistance, melt tension, and moldability, and their moldings)

IT 25608-26-8, Ethylene-methacrylic acid copolymer sodium salt 28516-43-0, Ethylene-methacrylic acid copolymer zinc salt 75062-18-9, Ethylene-methacrylic acid copolymer magnesium salt
 RL: MOA (Modifier or additive use); POF (Polymer in formulation); USES (Uses)
 (polyacetal compns. with good impact resistance, melt tension, and moldability, and their moldings)

L13 ANSWER 5 OF 25 CAPLUS COPYRIGHT 2002 ACS
 AN 1997:590545 CAPLUS
 DN 127:248867
 TI Thermoplastic styrene polymer compositions
 IN Matsushima, Mitsunori; Haraga, Hiroko
 PA Polyplastics Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C08L025-04
 ICS C08L025-04; C08L033-10; C08L059-00
 CC 37-3 (Plastics Manufacture and Processing)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09227741	A2	19970902	JP 1996-36120	19960223
AB	Title compns. with improved mech. strength, modulus, heat distortion temp., and abrasion resistance comprise (A) 100 parts thermoplastic styrene polymers and (B) 3-100 parts branched polyacetals prepd. by polymn. of 85.00-99.88% trioxane, 0.1-10% cyclic ethers and/or cyclic formals, and 0.02-5% diglycidyl compds. Thus, a mixt. of trioxane 96.4, dioxolane 3.0, butanediol diglycidyl ether 0.5, and methylal 0.1% was treated in the presence of BF3.Et2O to obtain branched polyacetal, 30 parts of which was melt-kneaded with 100 parts #20 (polystyrene). The compn. was pelletized and injection molded to give test pieces showing tensile strength 503 kg/cm2 and abrasion loss 13.6 mg.				
ST	thermoplastic styrene polymer blend cyclic polyacetal; trioxane dioxolane butanediol diglycidyl ether copolymer; polystyrene blend cyclic polyacetal; abrasion heat resistance thermoplastic polystyrene polyacetal				
IT	Polyoxymethylenes, preparation Polyoxymethylenes, preparation RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses) (polyoxyalkylene-, cyclic; 5thermoplastic styrene polymer blends with cyclic polyacetals with improved abrasion resistance)				
IT	Polyoxyalkylenes, preparation Polyoxyalkylenes, preparation RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses) (polyoxymethylene-, cyclic; 5thermoplastic styrene polymer blends with cyclic polyacetals with improved abrasion resistance)				
IT	Abrasion-resistant materials Heat-resistant materials (thermoplastic styrene polymer blends with cyclic polyacetals with improved abrasion resistance)				
IT	Polymer blends RL: PRP (Properties) (thermoplastic styrene polymer blends with cyclic polyacetals with improved abrasion resistance)				
IT	9003-56-9, ABS (polymer) RL: POF (Polymer in formulation); PRP (Properties); USES (Uses) (ABS 660SF; thermoplastic styrene polymer blends with cyclic polyacetals with improved abrasion resistance)				
IT	9011-14-7, Poly(methyl methacrylate) RL: MOA (Modifier or additive use); USES (Uses) (LG 6; thermoplastic styrene polymer blends with cyclic polyacetals with improved abrasion resistance)				
IT	187227-86-7P RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses) (cyclic; thermoplastic styrene polymer blends with cyclic polyacetals with improved abrasion resistance)				
IT	178412-25-4, R 80 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses) (high-impact; thermoplastic styrene polymer blends with cyclic polyacetals with improved abrasion resistance)				
IT	9003-53-6, Polystyrene RL: POF (Polymer in formulation); PRP (Properties); USES (Uses) (thermoplastic styrene polymer blends with cyclic polyacetals with improved abrasion resistance)				
L13	ANSWER 6 OF 25 CAPLUS COPYRIGHT 2002 ACS				
AN	1997:186340 CAPLUS				
DN	126:172364				
TI	Propylene polymer compositions containing branched polyacetal resins with good compatibility, abrasion-resistance, and mechanical properties				
IN	Matsushima, Mitsunori; Haraga, Hiroko				

PA Polyplastics Kk, Japan
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C08L023-10
 ICS C08L059-00; C08L075-04
 CC 37-3 (Plastics Manufacture and Processing)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09003272	A2	19970107	JP 1995-155795	19950622
AB	<p>Blends contain 100 parts propylene polymers and 3-100 parts branched polyacetal resins prepd. by polymn. of trioxane (I) 85.00-99.88, cyclic ethers and/or cyclic formals 0.1-10, and diglycidyl compds. 0.02-5%. Thus, J 640 (propylene copolymer) was mixed with 30% 0.3:3.0:0.1:96.6 butanediol glycidyl ether-dioxolane-methylal-I copolymer, melt kneaded, pelletized, and injection molded to give test pieces showing tensile strength 300 kg/cm², good abrasion-resistance, and no surface peeling.</p>				
ST	<p>polypropylene branched polyacetal resin blend compatibility; abrasion resistance mech strength polypropylene blend; glycidyl ether dioxolane methylal trioxane copolymer; cyclic ether formal polyacetal polypropylene blend</p>				
IT	<p>Polyurethanes, preparation RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PRP (Properties); PREP (Preparation); USES (Uses) (compatibilizer; polypropylene-branched polyacetal-polyurethane blends with good compatibility, abrasion-resistance, and mech. strength)</p>				
IT	<p>Ethers, reactions RL: RCT (Reactant); RACT (Reactant or reagent) (cyclic; polymn. of trioxane and cyclic ethers and formals and diglycidyl compds. for blends with propylene polymers)</p>				
IT	<p>Polymerization (polymn. of trioxane and cyclic ethers and formals and diglycidyl compds. for blends with propylene polymers)</p>				
IT	<p>Epoxides RL: RCT (Reactant); RACT (Reactant or reagent) (polymn. of trioxane and cyclic ethers and formals and diglycidyl compds. for blends with propylene polymers)</p>				
IT	<p>Polyoxymethylenes, preparation Polyoxymethylenes, preparation RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (polyoxyalkylene-, branched; polypropylene-branched polyacetal blends with good compatibility, abrasion-resistance, and mech. strength)</p>				
IT	<p>Polyoxyalkylenes, preparation Polyoxyalkylenes, preparation RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (polyoxymethylene-, branched; polypropylene-branched polyacetal blends with good compatibility, abrasion-resistance, and mech. strength)</p>				
IT	<p>Abrasion-resistant materials (polypropylene-branched polyacetal blends with good compatibility, abrasion-resistance, and mech. strength)</p>				
IT	<p>Polymer blends RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses) (polypropylene-branched polyacetal-polyurethane blends with good compatibility, abrasion-resistance, and mech. strength)</p>				
IT	<p>Polymer blend compatibilizers RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PRP</p>				

(Properties); PREP (Preparation); USES (Uses)
 (polyurethanes; polypropylene-branched polyacetal-polyurethane
blends with good compatibility, abrasion-resistance, and mech.
 strength)

IT 187279-73-8P
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PRP
 (Properties); PREP (Preparation); USES (Uses)
 (compatibilizer; polypropylene-branched polyacetal-polyurethane
blends with good compatibility, abrasion-resistance, and mech.
 strength)

IT 187227-86-7P
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP
 (Properties); TEM (Technical or engineered material use); PREP
 (Preparation); USES (Uses)
 (polypropylene-branched polyacetal **blends** with good
 compatibility, abrasion-resistance, and mech. strength)

IT 25085-53-4, J 400 106565-43-9, Hipol J 640
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or
 engineered material use); USES (Uses)
 (polypropylene-branched polyacetal **blends** with good
 compatibility, abrasion-resistance, and mech. strength)

L13 ANSWER 7 OF 25 CAPLUS COPYRIGHT 2002 ACS
 AN 1997:186338 CAPLUS
 DN 126:172439

TI Ethylene polymer compositions containing branched polyacetal resins with
 good mechanical strength, abrasion-resistance, and moldability
 IN Matsushima, Mitsunori; Haraga, Hiroko
 PA Polyplastics Kk, Japan
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF

DT Patent
 LA Japanese
 IC ICM C08L023-04
 ICS C08L059-00; C08L075-04
 CC 37-6 (Plastics Manufacture and Processing)
 Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09003264	A2	19970107	JP 1995-155796	19950622
AB	Title compns. with good mech. strength contain 100 parts ethylene polymers and 3-100 parts branched polyacetal resins prepd. by polymn. of trioxane (I) 85.00-99.88, cyclic ethers and/or cyclic formals 0.1-10, and diglycidyl compds. 0.02-5%. Caps, tubes, and other containers are manufd. from the compns. with a short molding cycle. Thus, Mirason 403P (low-d. polyethylene) was mixed with 30% 0.3:3.0:0.1:96.6 butanediol glycidyl ether-dioxolane-methylal-I copolymer, melt kneaded, pelletized, and injection molded with a min. molding cycle time 55 s to give test pieces, which showed tensile strength 255 kg/cm ² , good abrasion resistance, and no surface peeling.				
ST	polyethylene branched polyacetal resin blend moldability; abrasion resistance mech strength polyethylene blend ; glycidyl ether methylal trioxane copolymer compatibility; dioxolane methylal trioxane copolymer compatibility polyethylene; cyclic ether formal polyacetal polyethylene blend ; cap tube container polyethylene polyacetal blend				
IT	Polymer blend compatibilizers RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PRP (Properties); PREP (Preparation); USES (Uses) (modified polyolefins; polyethylene-branched polyacetal-modified polyolefin blends with good compatibility and moldability for abrasion-resistant containers)				
IT	Abrasion-resistant materials Caps Containers Pipes and Tubes				

(polyethylene-branched polyacetal **blends** with good compatibility and moldability for abrasion-resistant containers)

IT Polymer **blends**
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (polyethylene-branched polyacetal **blends** with good compatibility and moldability for abrasion-resistant containers)

IT Polyoxymethylenes, preparation
 Polyoxymethylenes, preparation
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyoxyalkylene-, branched; polyethylene-branched polyacetal **blends** with good compatibility and moldability for abrasion-resistant containers)

IT Polyoxyalkylenes, preparation
 Polyoxyalkylenes, preparation
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyoxymethylene-, branched; polyethylene-branched polyacetal **blends** with good compatibility and moldability for abrasion-resistant containers)

IT 187227-87-8P 187227-88-9P
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PRP (Properties); PREP (Preparation); USES (Uses)
 (compatibilizer; polyethylene-branched polyacetal-modified polyolefin **blends** with good compatibility and moldability for abrasion-resistant containers)

IT 9002-88-4, Polyethylene
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (low-d., Mirason 403P; polyethylene-branched polyacetal **blends** with good compatibility and moldability for abrasion-resistant containers)

IT 187227-86-7P
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyethylene-branched polyacetal **blends** with good compatibility and moldability for abrasion-resistant containers)

L13 ANSWER 8 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 1994:511095 CAPLUS

DN 121:111095

TI Biaxially stretched polyoxymethylene-vinylphenol polymer **blend** films

IN Hasegawa, Takuya; Takasa, Kenji

PA Asahi Chemical Ind, Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08J005-18

ICS B29C055-12; C08L025-18; C08L059-02

ICI B29K025-00, B29K059-00, B29L007-00

CC 38-3 (Plastics Fabrication and Uses)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06080795	A2	19940322	JP 1992-237159	19920904
AB	The films, useful for magnetic tapes, etc., contain 50-99 parts polyoxymethylenes composed of CH ₂ O units and 1-50 parts poly(vinylphenol) or its derivs. Thus, 97 parts Tenac 3010 and 3 parts Maruka Lyncur M-S 2 [I; vinylphenol polymer] were blended , pelletized, sheeted, and stretched biaxially to give a film showing tensile modulus 600 kg/mm ² in the transverse direction and 610 in the machine direction, vs. 560 and				

510, resp., for a control prepd. without I.
 ST polyoxymethylene polyvinylphenol **blend** film stretchability
 IT Polyoxymethylenes, miscellaneous
 RL: MSC (Miscellaneous)
 (poly(vinylphenol) **blends**, films, biaxially stretched, with
 good mech. properties)
 IT Plastics, film
 RL: USES (Uses)
 (polyoxymethylene-poly(vinylphenol) **blends**, biaxially
 stretched, with good mech. properties)
 IT 9002-81-7, Tenac 3010 27082-00-4, 1,4-Butanediol **diglycidyl**
 ether-ethylene oxide-**trioxane** copolymer
 RL: USES (Uses)
 (poly(vinylphenol) **blends**, films, biaxially stretched, with
 good mech. properties)
 IT 24979-70-2, Maruka Lyncur M-S 2 24979-74-6, Maruka Lyncur CST 70
 RL: USES (Uses)
 (polyoxymethylene **blends**, films, biaxially stretched, with
 good mech. properties)

L13 ANSWER 9 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 1993:126073 CAPLUS

DN 118:126073

TI Polyacetal hollow moldings with improved impact strength

IN Nagasaki, Kosuke; Hata, Tadashige; Matsuzaki, Kazuhiko

PA Asahi Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM B29C049-06

ICA C08L059-00

ICI B29K059-00, B29L022-00

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 37

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04193522	A2	19920713	JP 1990-322605	19901128
	JP 3022987	B2	20000321		

AB The title moldings are prepd. by injection blow molding at 180-240.degree.
 of compns. contg. acetal resins having melt index 0.05-10 and linear,
 branched, or crosslinked chains. A mixt. of an acetal resin (prepd. by
 polymg. HCHO in the presence of glycerol and stabilized by formation of
 acetate end groups) 100, MDI-tetramethylene glycol-polytetramethylene
 glycol copolymer 12, antioxidant 0.5, and heat stabilizer 0.3 part was
 injection blow molded to give hollow moldings with uniform wall thickness
 and good impact strength.

ST acetal resin **blend** hollow molding; impact strength acetal resin
blend; polyoxymethylene polyurethane **blend** hollow
 molding; injection blow molding acetal resin

IT Polyesters, uses

Rubber, urethane, uses

RL: USES (Uses)

(acetal resin **blends**, for hollow moldings with impact
 resistance)

IT Impact-resistant materials

(acetal resin **blends**, for injection blow molding)

IT Plastics, molded

RL: USES (Uses)

(acetal resin **blends**, impact-resistant)

IT Polyoxymethylenes, uses

RL: USES (Uses)

(**blends** contg., for hollow moldings with impact resistance)

IT Polyoxymethylenes, uses

RL: USES (Uses)

(polyoxyalkylene-, **blends** contg., for hollow moldings with

impact resistance)
 IT Polyoxyalkylenes, uses
 RL: USES (Uses)
 (polyoxymethylene-, **blends** contg., for hollow moldings with impact resistance)
 IT 74-85-1D, Ethylene, polymers with propene and diene 115-07-1D, Propylene, polymers with ethylene and diene 9018-04-6 66027-02-9, Adipic acid-1,4-butanediol-isophthalic acid-terephthalic acid copolymer 114633-37-3 115786-07-7 118624-28-5 146277-72-7
 RL: USES (Uses)
 (acetal resin **blends**, for hollow moldings with impact resistance)
 IT 56-81-5D, 1,2,3-Propanetriol, polyoxymethylene ethers 24969-26-4, 1,3-Dioxolane-trioxane copolymer 27082-00-4, 1,4-Butanedioldiglycidylether-ethylene oxide-trioxane copolymer
 RL: USES (Uses)
 (**blends** contg., for hollow moldings with impact resistance)

L13 ANSWER 10 OF 25 CAPLUS COPYRIGHT 2002 ACS
 AN 1993:103776 CAPLUS
 DN 118:103776
 TI Polyoxymethylene compositions with good mechanical properties and impact strength
 IN Makabe, Yoshiki; Nishiya, Yoshitaka; Yamamoto, Yoshuki
 PA Toray Industries, Inc., Japan
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF

DT Patent
 LA Japanese
 IC ICM C08L059-00
 ICI C08L059-00, C08L075-04
 CC 37-6 (Plastics Manufacture and Processing)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04198355	A2	19920717	JP 1990-327799	19901128
	JP 3136607	B2	20010219		

AB Title compns. with good appearance and thermal aging resistance comprise 100 parts polyoxymethylenes prepd. by copolyimg. trioxane (I), .gtoreq.1 cyclic ethers selected from ethylene oxide, 1,3-dioxolane (II), 1,3-dioxepane, 1,3,6-trioxepane, and 1,3,6-trioxocane, and .gtoreq.1 compds. selected from Ph glycidyl ether (III), styrene oxide, and naphthyl glycidyl ether, and 1-150 parts thermoplastic polyurethanes. Thus, 100 parts 100:3.0:0.3 I-II-III copolymer and 20 parts Miractran E 180 were melt kneaded, pelletized, and injection molded to give a test piece showing notched Izod impact strength 140 J/m and tensile strength halving time 1740 h at 150.degree..

ST polyoxymethylene **blend** impact strength appearance; mech strength polyoxymethylene **blend** appearance; aging resistance polyoxymethylene **blend**; polyurethane **blend** polyoxymethylene heat resistance

IT Urethane polymers, uses
 RL: USES (Uses)
 (polyoxymethylene **blends**, heat- and impact-resistant, with good appearance)

IT Plastics
 RL: USES (Uses)
 (polyoxymethylene-polyurethane **blends**, heat- and impact-resistant, with good appearance)

IT Heat-resistant materials
 Impact-resistant materials
 (polyoxymethylene-polyurethane **blends**, with good appearance)

IT Rubber, urethane, uses
 RL: USES (Uses)
 (adipic acid-based, polyoxymethylene **blends**, heat- and impact-resistant, with good appearance)

IT Rubber, urethane, uses
 RL: USES (Uses)
 (caprolactone-based, polyoxymethylene **blends**, heat- and impact-resistant, with good appearance)

IT Rubber, urethane, uses
 RL: USES (Uses)
 (polyether-, polyoxymethylene **blends**, heat- and impact-resistant, with good appearance)

IT Polyoxymethylenes, uses
 RL: USES (Uses)
 (polyoxyalkylene-, polyurethane **blends**, heat- and impact-resistant, with good appearance)

IT Polyoxyalkylenes, uses
 RL: USES (Uses)
 (polyoxymethylene-, polyurethane **blends**, heat- and impact-resistant, with good appearance)

IT 31075-01-1, 1,3-Dioxolane-phenyl **glycidyl** ether-**trioxane** copolymer 137284-61-8, Ethylene oxide-naphthyl **glycidyl** ether-**trioxane** copolymer 146192-64-5
 RL: USES (Uses)
 (polyurethane **blends**, heat- and impact-resistant, with good appearance)

L13 ANSWER 11 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 1993:103699 CAPLUS

DN 118:103699

TI Blow-molding acetal polymers for gasoline tanks

IN Matsuzaki, Kazuhiko; Kataoka, Hiroshi

PA Asahi Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM B29C049-04

ICS B65D001-09

ICI B29K059-00, B29L022-00, C08L059-00

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 39, 51

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04163022	A2	19920608	JP 1990-285872	19901025
	JP 2965660	B2	19991018		
AB	Title tanks are prepd. by blow-molding acetal polymers having melt index 0.005-1.0 at 180-260.degree.. Thus, a tank prepd. by blow-molding polyoxymethylene contg. 12 phr 4,4'-diphenylmethane diisocyanate-tetramethylene glycol-poly(tetramethylene glycol) copolymer rubber with additives (melt index of the blend 0.08) had Izod impact strength 15 kg cm/cm and gasoline permeability 0.23 g mm/cm ² day.				
ST	polyoxymethylene rubber blend gasoline tank; polyoxytetramethylene polyurethane rubber polyoxymethylene blend ; polyurethane rubber polyoxymethylene blend tank; impact resistant polyoxymethylene blend				
IT	Impact-resistant materials (acetal polymer-rubber blends , for blow-molded gasoline tanks)				
IT	Polyoxymethylenes, uses RL: USES (Uses) (rubber blends with, for blow-molded gasoline tanks)				
IT	Gasoline RL: USES (Uses) (tanks for, blow-molded acetal polymer-rubber blends for)				
IT	Rubber, synthetic RL: USES (Uses) (EPDM, acetal polymer blends with, for blow-molded gasoline tanks)				
IT	Rubber, synthetic				

RL: USES (Uses)
 (polyester, acetal polymer **blends** with, for blow-molded gasoline tanks)

IT Rubber, urethane, uses
 RL: USES (Uses)
 (polyester-, acetal polymer **blends** with, for blow-molded gasoline tanks)

IT Rubber, urethane, uses
 RL: USES (Uses)
 (polyoxyalkylene-, **block**, acetal polymer **blends** with, for blow-molded gasoline tanks)

IT Containers
 (tanks, for gasoline, blow-molded acetal polymer-rubber **blends** for)

IT 25232-00-2, 1,3-Dioxane-trioxane copolymer 27082-00-4, 1,4-Butanediol **diglycidyl** ether-ethylene oxide-**trioxane** copolymer
 RL: USES (Uses)
 (rubber **blends**, for blow-molded gasoline tanks)

IT 74-85-1
 RL: USES (Uses)
 (rubber, EPDM, acetal polymer **blends** with, for blow-molded gasoline tanks)

IT 66027-02-9, Adipic acid-1,4-butanediol-isophthalic acid-terephthalic acid copolymer 107678-92-2 127852-79-3
 RL: USES (Uses)
 (rubber, acetal polymer **blends**, for blow-molded gasoline tanks)

L13 ANSWER 12 OF 25 CAPLUS COPYRIGHT 2002 ACS
 AN 1991:633907 CAPLUS
 DN 115:233907
 TI Polyoxymethylene compositions
 IN Makabe, Yoshiki; Hatsu, Toshihiro; Yamamoto, Yoshiyuki
 PA Toray Industries, Inc., Japan
 SO Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C08L059-04
 ICI C08L059-04, C08L067-00; C08L059-04, C08L071-00
 CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03126751	A2	19910529	JP 1989-264522	19891011
	JP 2903566	B2	19990607		

AB Title comps. with fast crystn. rate and good heat resistance contain 0.01-20 parts aliph. polyethers and/or aliph. polyesters per 100 parts polyoxymethylenes prep'd. by copolymg. (A) trioxane (I), (B) .gtoreq.1 cyclic ether selected from ethylene oxide, 1,3-dioxolane (II), 1,3-dioxepane, 1,3,5-trioxepane, and 1,3,6-trioxocane, and (C) .gtoreq.1 comp'd. selected from Ph glycidyl ether (III), styrene oxide, and naphthyl glycidyl ether. Thus, I 100, II 3.0, and III 0.3 part were treated in the presence of BF3.Et2O and methylal to obtain a polymer, 10 kg of which was further treated with bis(1,2,6,6-pentamethyl-4-piperidinyl) sebacate 27, Ca stearate 10, 1,6-hexanediol bis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate] 50 g. The resulting compn. was melt kneaded (100 parts) with 0.5 parts polyethylene glycol (IV), and the **blend** was pelletized and injection molded to give test pieces showing Tm - Tc = 12.7.degree. (Tm = m.p., Tc = crystn. temp.), notched Izod impact strength 67.1 J/m, half-life of tensile strength decrease at 150.degree. 1080 h, and good appearance, vs. 14.1, 61.7, 840, and fair, resp., without IV.

ST polyoxymethylene **blend** heatproof crystn rate; polyoxyethylene polyoxymethylene **blend**; trioxane copolymer polyoxyethylene **blend**; dioxolane copolymer polyoxyethylene **blend**; glycidyl oxybenzene copolymer polyoxyethylene **blend**; polyester polyoxymethylene **blend**

IT Heat-resistant materials
 (blends of polyoxymethylene and aliph. polyethers and/or
 aliph. polyesters as, with fast crystn. rate)

IT Plastics, molded
 RL: USES (Uses)
 (blends of polyoxymethylene and aliph. polyethers and/or
 aliph. polyesters as, with fast crystn. rate and good heat resistance)

IT Polyoxymethylenes, uses and miscellaneous
 RL: USES (Uses)
 (blends with aliph. polyethers and/or aliph. polyesters, with
 fast crystn. rate and good heat resistance)

IT Polyoxyalkylenes, properties
 RL: PRP (Properties)
 (polyoxymethylene blends, with fast crystn. rate and good
 heat resistance)

IT Polyesters, uses and miscellaneous
 RL: USES (Uses)
 (aliph., blends with polyoxymethylenes, with fast crystn.
 rate and good heat resistance)

IT 31075-01-1, 1,3-Dioxolane-phenyl glycidyl ether-trioxane
 copolymer 137276-97-2, 1,3-Dioxepane-phenyl glycidyl ether-
 trioxane copolymer 137284-61-8, Ethylene oxide-naphthyl
 glycidyl ether-trioxane copolymer
 RL: USES (Uses)
 (blends with aliph. polyethers and/or aliph. polyesters, with
 fast crystn. rate and good heat resistance)

IT 24937-05-1, Poly(ethylene adipate) 24938-37-2, Poly(ethylene adipate)
 24980-41-4, Poly(.epsilon.-caprolactone) 25190-06-1 25248-42-4,
 Poly[oxy(1-oxo-1,6-hexanediyl)] 25322-68-3
 RL: USES (Uses)
 (blends with polyoxymethylenes, with fast crystn. rate and
 good heat resistance)

L13 ANSWER 13 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 1991:633870 CAPLUS

DN 115:233870

TI Polyoxymethylene compositions

IN Makabe, Yoshiki; Hatsu, Toshihiro; Yamamoto, Yoshiyuki

PA Toray Industries, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08L059-04

ICI C08L059-04, C08L067-00; C08L059-04, C08L071-00

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 35

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03126752	A2	19910529	JP 1989-264523	19891011
	JP 2903567	B2	19990607		

AB The title compns., cryst. and resistant to thermal aging with good surface
 and mech. properties, comprise polyoxymethylenes 100, polyoxymethylene
 copolymers contg. structural unit (CH₂)_mCHR(CH₂)_nO (m, n = 0-20; m + n >1;
 R = alkyl, alkoxyalkyl, alkoxy, aryl, aryloxyalkyl, aryloxy) 0.001-50, and
 aliph. polyethers and/or aliph. polyesters 0.01-20 parts. Thus, a
blend of 1,3-dioxolane-trioxane copolymer with small amts. of
 additives 100, Ph glycidyl ether-trioxane copolymer
 (I) 1.0, and poly(ethylene oxide) (II) 1.0 part showed melt index 9.1 g/10
 min, difference of m.p. and crystn. point (as measure of crystallinity)
 14.2.degree., yield stress 63.1 MPa, Izod impact strength 62.3 J/m,
 resistance to thermal aging (as time for tensile strength to decrease by
 half at 150.degree.) 1020 h, and good surface vs. 9.0, 22.4, 55.8, 51.6,
 660, and poor surface, resp., for a control without I and II.

ST polyoxymethylene compn thermal aging resistance; heat resistance
 polyoxymethylene compn; crystallinity polyoxymethylene compn; surface

improvement polyoxymethylene compn; **trioxane glycidyl**
ether copolymer; polyether aliph polyoxymethylene compn; polyester aliph
polyoxymethylene compn

IT Heat-resistant materials
(blends of polyoxymethylenes and trioxane-cyclic ether
copolymers and polyethers and/or polyesters)

IT Plastics
RL: USES (Uses)
(blends of polyoxymethylenes and trioxane-cyclic ether
copolymers and polyethers and/or polyesters, heat-resistant, with good
crystallinity and mech. properties and surface)

IT Polyoxymethylenes, uses and miscellaneous
RL: USES (Uses)
(blends with trioxane-cyclic ether copolymers and polyethers
and/or polyesters, heat-resistant, with good crystallinity and mech.
properties and surface)

IT Polyesters, uses and miscellaneous
Polyethers, uses and miscellaneous
RL: USES (Uses)
(aliph., blends with polyoxymethylenes and trioxane-cyclic
ether copolymers, heat-resistant, with good crystallinity and mech.
properties and surface)

IT 24937-05-1, Poly(ethylene adipate) 24938-37-2, Poly(ethylene adipate)
24980-41-4, Poly(.epsilon.-caprolactone) 25190-06-1, PTMG 25248-42-4,
Poly[oxy(1-oxo-1,6-hexanediyl)] 25322-68-3, Poly(ethylene oxide)
RL: USES (Uses)
(blends with polyoxymethylenes and trioxane-cyclic ether
copolymers, heat-resistant, with good crystallinity and mech.
properties and surface)

IT 25584-96-7P, Phenyl **glycidyl** ether-**trioxane** copolymer
30049-86-6P, Styrene oxide-trioxane copolymer 137126-98-8P
RL: PREP (Preparation)
(prepn. of, blends with polyoxymethylenes and polyethers
and/or polyesters, heat-resistant, with good crystallinity and mech.
properties and surface)

IT 9002-81-7P, Formaldehyde polymer 24969-26-4P
RL: PREP (Preparation)
(prepn. of, blends with trioxane-cyclic ether copolymers and
polyethers and/or polyesters, heat-resistant, with good crystallinity
and mech. properties and surface)

L13 ANSWER 14 OF 25 CAPLUS COPYRIGHT 2002 ACS
AN 1991:451194 CAPLUS
DN 115:51194
TI Impact-resistant polyoxymethylene **blends**
IN Matsuzaki, Kazuhiko
PA Asahi Chemical Industry Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF

DT Patent
LA Japanese
IC ICM C08L059-02
CC 37-6 (Plastics Manufacture and Processing)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03000756	A2	19910107	JP 1989-134640	19890530
	JP 06076538	B4	19940928		

AB The title **blends** contain linear polyoxymethylenes 100, network
polyoxymethylenes 0.01-15, and branched polyoxymethylenes 0.01-10 parts.
A **blend** of linear polyoxymethylene 100, Bu3N-crosslinked
trioxane-ethylene oxide-1,4-butanediol glycidyl ether copolymer 1.0,
branched HCHO-trimethylolpropane copolymer 2.0, and stabilizers 0.7 part
had melt index 14.8 g/10 min, Izod impact strength 10.2 kg-cm/cm, and
tensile elongation 50%.

ST polyoxymethylene **blend** impact resistance; crosslinking
polyoxymethylene **blend**; branched polyoxymethylene **blend**

; trimethylolpropane copolymer **blend**; glycidyl ether copolymer **blend**; trioxane copolymer **blend**
 IT Polyoxymethylenes, uses and miscellaneous
 RL: USES (Uses)
 (**blends** of linear, crosslinked and branched, impact-resistant)
 IT 24969-25-3
 RL: USES (Uses)
 (**blends** with crosslinked and branched polyoxymethylenes, impact-resistant)
 IT 24969-26-4, Ethylene glycol formal-trioxane copolymer 134902-96-8
 RL: USES (Uses)
 (branched, **blends** with linear and crosslinked polyoxymethylenes, impact-resistant)
 IT 27082-00-4, 1,4-Butanediol **diglycidyl** ether-ethylene oxide-trioxane copolymer 134873-66-8
 RL: USES (Uses)
 (crosslinked, **blends** with linear and branched polyoxymethylenes, impact-resistant)

L13 ANSWER 15 OF 25 CAPLUS COPYRIGHT 2002 ACS
 AN 1991:63557 CAPLUS
 DN 114:63557
 TI Moldable acetal polymer-elastomer **blends**
 IN Wissbrun, Kurt F.; Collins, George L.; Kim, Hongkyu; Terrone, Diane
 PA Hoechst Celanese Corp., USA
 SO Eur. Pat. Appl., 8 pp.
 CODEN: EPXXDW

DT Patent
 LA English
 IC ICM C08L059-02
 ICI C08L059-02, C08L059-04
 CC 37-6 (Plastics Manufacture and Processing)
 Section cross-reference(s): 38

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 391681	A2	19901010	EP 1990-303594	19900404
	EP 391681	A3	19911030		
	R: BE, DE, FR, GB, IT, NL				
	US 5045607	A	19910903	US 1989-333511	19890405
	CA 2013288	AA	19901005	CA 1990-2013288	19900328
	JP 02294353	A2	19901205	JP 1990-91325	19900405
	JP 3045515	B2	20000529		
PRAI	US 1989-333511	A	19890405		
	US 1988-243381	A2	19880912		

AB **Blends** of a normally cryst. acetal polymer and a normally noncryst. elastomeric copolymer of trioxane 15-45, 1,3-dioxolane (I) 55-85, and 1,4-butanediol diglycidyl ether (II) or butadiene diepoxide 0.005-0.05% are useful as moldings having good elasticity and adhesiveness. Thus, a **blend** of 30% trioxane-I-II copolymer and 70% cryst. Celcon M25 (acetal polymer) was used to prep. moldings.
 ST acetal polymer **blend** elasticity adhesiveness; dioxolane copolymer acetal polymer **blend**; epoxide copolymer acetal polymer **blend**; butadiene diepoxide copolymer **blend**; trioxane copolymer acetal polymer **blend**
 IT Plastics, molded
 RL: USES (Uses)
 (acetal resin-elastomer **blends**, with elasticity and adhesiveness)
 IT Polyoxymethylenes, uses and miscellaneous
 RL: USES (Uses)
 (**blends** with elastomers, with elasticity and adhesiveness)
 IT Rubber, synthetic
 RL: USES (Uses)
 (bioxirane-dioxolane-trioxane, **blends** with acetal polymers, with elasticity and adhesiveness)

IT Rubber, synthetic
 RL: USES (Uses)
 (butanediol **diglycidyl** ether-dioxolane-**trioxane**,
blends with acetal polymers, with elasticity and adhesiveness)

IT 41258-95-1 127552-61-8
 RL: USES (Uses)
 (**blends** with acetal polymers, with elasticity and
 adhesiveness)

IT 24969-25-3, Celcon M270 52276-51-4, Celcon M25 95327-43-8, Celcon M90
 RL: USES (Uses)
 (**blends** with elastomers, with elasticity and adhesiveness)

L13 ANSWER 16 OF 25 CAPLUS COPYRIGHT 2002 ACS
 AN 1990:593243 CAPLUS
 DN 113:193243
 TI Preparation of elastomeric acetal copolymers
 IN Collins, George L.; Wissbrun, Kurt F.; Kim, Hongkyu
 PA Hoechst Celanese Corp., USA
 SO U.S., 6 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 IC ICM C08G002-24
 NCL 528230000
 CC 39-4 (Synthetic Elastomers and Natural Rubber)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4937312	A	19900626	US 1989-448746	19891211
AB	Elastomeric acetal copolymers, having strong interaction with cryst. polyacetals, and useful as blending agents with cryst. polyacetals, are prepd. by mixing 15-45 mol% trioxane (I) and 55-85 mol% 1,3-dioxolane (II) based on the total of I and II, and 0.05-0.15 wt.% 1,5-butanediol diglycidyl ether (III) or butadiene diepoxide under an inert atm. in the presence of a cationic polymn. catalyst. Thus, dry I, II, and III were copolymd. at ambient temp. in the presence of p-nitrobenzenediazonium tetrafluoroborate catalyst soln. and MeNO2 for 24 h and the product was worked up with CH2Cl2 and EtOH to give a copolymer having inherent viscosity 2.46.				
ST	acetal copolymer elastomer manuf; trioxane copolymer rubber manuf; dioxolane copolymer rubber manuf; butanediol glycidyl ether copolymer rubber; nitrobenzenediazonium fluoroborate polymn catalyst acetal				
IT	Polyoxymethylenes, preparation RL: PREP (Preparation) (manuf. of elastomeric,)				
IT	Polymerization catalysts (nitrobenzenediazonium tetrafluoroborate, for acetal copolymer rubber manuf.)				
IT	Rubber, synthetic RL: SPN (Synthetic preparation); PREP (Preparation) (butanediol diglycidyl ether-dioxolane- trioxane , prepn. and uses of)				
IT	456-27-9, p-Nitrobenzenediazonium tetrafluoroborate RL: CAT (Catalyst use); USES (Uses) (catalysts, for copolymn. of dioxolane and trioxane and butanediol diglycidyl ether)				
IT	41258-95-1P RL: IMF (Industrial manufacture); PREP (Preparation) (rubber, prepn. of, method for)				

L13 ANSWER 17 OF 25 CAPLUS COPYRIGHT 2002 ACS
 AN 1990:218345 CAPLUS
 DN 112:218345
 TI Biaxially stretched polyoxymethylene films with smooth surface
 IN Takasa, Kenji; Iijima, Satoshi
 PA Asahi Chemical Industry Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM B29C055-12
 ICS C08J005-18
 ICA B29C055-18; C08L059-02; C08L071-02; G11B005-704
 ICI B29K059-00, B29L007-00
 CC 38-3 (Plastics Fabrication and Uses)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01286820	A2	19891117	JP 1988-178044	19880719
	JP 04022418	B4	19920417		
	US 4946930	A	19900807	US 1988-221602	19880720
	EP 300480	A3	19900530	EP 1988-111782	19880721
	EP 300480	B1	19931215		

R: DE, FR, GB

PRAI JP 1987-179923 19870721
 JP 1988-12586 19880125

AB Title films, contg. mainly oxymethylene units and useful for magnetic recording media substrates, etc., are prepd. by melting biaxially stretched films above the m.p. and recrystg. the films isothermally at 140.degree. to form films having no. of spherulites on the surface .gtoreq.50/0.1 mm2. Thus, a **blend** of 100 parts Tenac 3010 and 1.5 parts 0.5:2.0:97.5 1,4-butanediol **glycidyl** ether-ethylene oxide-**trioxane** copolymer (I) was pelletized, extruded into a film, and biaxially stretched to give a 15-.mu.m film, which was sandwiched between 2 glass plates, melted 30 s at 200.degree., and recrystd. at 140.degree. to give a film having no. of spherulites (diam. 15-30 .mu.m) 150-300/0.1 mm2 and surface roughness 0.042 .mu.m, vs. 8-15 and 0.12, resp., for a film prepd. without I.

ST polyoxymethylene biaxially stretched recrystd film; magnetic recording media polyoxymethylene film

IT Polyoxymethylenes, uses and miscellaneous

RL: USES (Uses)

(films, biaxially stretched and recrystd., for magnetic recording media)

IT 9002-81-7, Tenac 3010 122343-73-1, Duracon U 10

RL: USES (Uses)

(films, contg. oxymethylene copolymers, for magnetic recording media)

IT 27082-00-4, 1,4-Butanediol **glycidyl** ether-ethylene oxide-

trioxane copolymer

RL: USES (Uses)

(polyoxymethylene films contg., for magnetic recording media)

L13 ANSWER 18 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 1989:535376 CAPLUS

DN 111:135376

TI Thermoplastic resin compositions containing modifier and polysiloxane-polyacetal

IN Nakane, Toshio; Kageyama, Yukihiro; Hijikata, Kenji

PA Polyplastics Co., Ltd., Japan

SO Eur. Pat. Appl., 11 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM C08L101-00

ICS C08G077-46

ICI C08L101-00, C08L083-12

CC 37-3 (Plastics Manufacture and Processing)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 319290	A2	19890607	EP 1988-311382	19881201
	EP 319290	A3	19900725		
	EP 319290	B1	19930915		

R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE

	JP 01146958	A2	19890608	JP 1987-307198	19871204
	JP 05080944	B4	19931110		
	US 4959404	A	19900925	US 1988-266800	19881103
	BR 8806059	A	19890808	BR 1988-6059	19881118
	AT 94579	E	19931015	AT 1988-311382	19881201
PRAI	JP 1987-307198		19871204		
	EP 1988-311382		19881201		
AB	Compatible title compns. with high toughness and abrasion resistance comprise a thermoplastic resin having soly. parameter (.delta.) .gtoreq.9.5 cal0.5/cm1.5 0.1-99.9, a modifier having .delta. .ltoreq.8.5 cal0.5/cm1.5 15-85, and a Si-contg. polyacetal copolymer (A) as dispersibility improver 0.01-5 parts. A blend of Duracon M90 94.5, SH-200 4, and an A (obtained by the reaction of polydimethylsiloxane diglycidyl ether, trioxane , and ethylene oxide) 1.5 part was injection-molded and heated at 80.degree. for 1 mo to give test pieces showing no bleeding of silicone oil, dynamic friction coeff. 0.07, and good flexural strength, compared with bleeding, 0.13, and poor, resp., without the A.				
ST	polyacetal silicone oil blend molding; abrasion resistance polyacetal blend ; dispersibility improver polyacetal siloxane epoxide				
IT	Polyamides, uses and miscellaneous Polycarbonates, uses and miscellaneous Polyesters, uses and miscellaneous Siloxanes and Silicones, uses and miscellaneous Urethane polymers, uses and miscellaneous RL: USES (Uses) (thermoplastic blends , dispersibility improvers for, silicone-contg. polyacetal as)				
IT	Rubber, butyl, uses and miscellaneous Rubber, ethylene-propene Rubber, silicone, uses and miscellaneous RL: USES (Uses) (thermoplastic blends , dispersibility improvers for, siloxane-polymethylene polymers as)				
IT	Rubber, synthetic RL: USES (Uses) (fluoro, thermoplastic blends , dispersibility improvers for, siloxane-polymethylene polymers as)				
IT	Polyesters, uses and miscellaneous RL: USES (Uses) (polyamide-, thermoplastic blends , dispersibility improvers for, silicone-contg. polyacetal as)				
IT	Polyamides, uses and miscellaneous RL: USES (Uses) (polyester-, thermoplastic blends , dispersibility improvers for, silicone-contg. polyacetal as)				
IT	Plastics RL: USES (Uses) (thermo-, blends , dispersibility improver for, silicone-contg. polyacetal as)				
IT	75-21-8D, Oxirane, reaction products with glycidyl -terminated siloxanes and trioxane 110-88-3D, 1,3,5- Trioxane , reaction products with glycidyl -terminated siloxanes and dioxolane 646-06-0D, 1,3-Dioxolane, reaction products with glycidyl -terminated siloxanes and trioxane RL: USES (Uses) (dispersibility improvers, for thermoplastic blends)				
IT	9002-86-2, PVC 24968-12-5, Poly(butylene terephthalate) 26062-94-2, Poly(butylene terephthalate) RL: USES (Uses) (polyoxymethylene blends , dispersibility improvers for, silicone-contg. polyacetal as)				
IT	9010-79-1 9010-85-9 RL: USES (Uses) (rubber, thermoplastic blends , dispersibility improvers for, siloxane-polymethylene polymers as)				

IT 9002-81-7, Polyoxymethylenes 9002-85-1, Poly(vinylidene chloride)
9002-89-5, Poly(vinyl alcohol) 9003-21-8, Poly(methyl acrylate)
9004-34-6, Cellulose, uses and miscellaneous 25014-41-9,
Polyacrylonitrile 25067-61-2, Polymethacrylonitrile
RL: USES (Uses)

(thermoplastic **blends**, dispersibility improvers for,
silicone-contg. polyacetal as)

IT 9002-84-0 9002-88-4 27342-38-7, Duracon M 90

RL: USES (Uses)

(thermoplastic **blends**, dispersibility improvers for,
siloxane-polymethylene polymers as)

L13 ANSWER 19 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 1979:122537 CAPLUS

DN 90:122537

TI Trioxane thermoplastic copolymers

IN Bojarski, Jerzy; Cieslak, Jerzy; Fejgin, Jerzy; Jezior, Roman; Penczek,
Stanislaw; Tomaszewicz, Maria

PA Instytut Chemii Przemyslowej, Pol.

SO Pol., 4 pp.

CODEN: POXXA7

DT Patent

LA Polish

IC C08G002-10

CC 36-6 (Plastics Manufacture and Processing)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI PL 94376	P	19770730	PL 1974-174628	19741007
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AB Thermoplastics with improved rigidity and low melt flow index (I) were
obtained by **blending** linear trioxane (I) copolymers with
crosslinked I copolymers. E.g., a **blend** contg.
dioxolane-trioxane copolymer [24969-26-4] (I = 12.3 g/10 min) 1000 with
dioxolane-2,2-bis(4-**glycidyl**oxyphenyl)propane-**trioxane**
copolymer [63411-51-8] (I = 0) 50 g was prepd. by homogenizing at
180-5.degree. and granulation. The granulate had I 7.9 g/10 min and it
gave test bars with elasticity modulus 27,200 kg/cm2 and elongation at
break 14.9%.

ST rigid thermoplast **blend**; trioxane copolymer **blend**;
polyoxymethylene rigid **blend**

IT Polyoxymethylenes, properties

RL: PRP (Properties)

(rigid **blends** contg. linear and crosslinked trioxane
copolymers)

IT 24969-26-4 27925-11-7

RL: USES (Uses)

(rigid **blends** contg. crosslinked trioxane copolymers)

IT 63411-50-7 63411-51-8 69678-97-3

RL: USES (Uses)

(rigid **blends** contg. linear trioxane copolymer)

L13 ANSWER 20 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 1978:616326 CAPLUS

DN 89:216326

TI Trioxane thermoplastic copolymers

IN Bojarski, Jerzy; Cieslak, Jerzy; Fejgin, Jerzy; Jezior, Roman; Penczek,
Stanislaw; Tomaszewska, Maria

PA Instytut Chemii Przemyslowej, Pol.

SO Pol., 4 pp.

CODEN: POXXA7

DT Patent

LA Polish

IC C08G002-10

CC 36-6 (Plastics Manufacture and Processing)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI PL 94376 19771231 PL 1974-174628 19741007
 AB The title copolymers with improved mech. properties were prepd. by modification of linear trioxane copolymers with crosslinked trioxane co- or terpolymers. Thus, 1000 g powd. linear 5:95 (mol%) dioxolane-trioxane copolymer [24969-26-4], stabilized with 2,2'-methylenebis(4-methyl-6-tert-butylphenol) and dicyandiamide, was mixed with 50 g crosslinked 0.05:5:94.95 (mol%) bisphenol A **diglycidyl** ether-dioxolane-**trioxane** terpolymer [63411-51-8]; the mixt. was homogenized at 180-5.degree. to give a material with elasticity modulus on stretching 27,200 kg/cm2, yield stress on stretching 602 kg/cm2, and elongation at break 14.9%.
 ST trioxane dioxolane polymer **blend**; epoxy contg trioxane polymer **blend**; crosslinked trioxane copolymer **blend**; polyoxyalkylene **blend** mech property
 IT Polyoxyalkylenes
 RL: USES (Uses)
 (linear-crosslinked trioxane copolymer **blends**, with increased strength)
 IT 24969-26-4
 RL: USES (Uses)
 (**blends** with crosslinked trioxane terpolymers, with improved strength)
 IT 63411-51-8
 RL: USES (Uses)
 (**blends** with linear trioxane copolymers, with improved strength)

L13 ANSWER 21 OF 25 CAPLUS COPYRIGHT 2002 ACS
 AN 1974:438427 CAPLUS
 DN 81:38427
 TI Thermoplastic poly(oxyethylene) molding materials
 IN Burg, Karl H.; Kern, Rudolf; Schmidt, Heinz
 PA Farbwerke Hoechst A.-G.
 SO Ger. Offen., 18 pp. Addn. to Ger. Offen. 2,150,038 (See FR 2,121,879 CA 78;112241w).
 CODEN: GWXXBX
 DT Patent
 LA German
 IC C08G
 CC 36-6 (Plastics Manufacture and Processing)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2233143	A1	19740131	DE 1972-2233143	19720706
	DE 2233143	C3	19800918		
	NL 7309132	A	19740108	NL 1973-9132	19730629
	NL 171070	B	19820901		
	NL 171070	C	19830201		
	CH 590895	A	19770831	CH 1973-9710	19730703
	JP 49058145	A2	19740605	JP 1973-74939	19730704
	JP 56042623	B4	19811006		
	AU 7357675	A1	19750109	AU 1973-57675	19730704
	CA 1002223	A1	19761221	CA 1973-175633	19730704
	ZA 7304553	A	19740626	ZA 1973-4553	19730705
	AT 7305927	A	19750515	AT 1973-5927	19730705
	AT 328187	B	19760310		
	SE 406772	C	19790607	SE 1973-9468	19730705
	SE 406772	B	19790226		
	BE 802031	A4	19740107	BE 1973-133220	19730706
	FR 2192138	A2	19740208	FR 1973-24953	19730706
	FR 2192138	B2	19781006		
	GB 1431586	A	19760407	GB 1973-32412	19730706
	US 3980734	A	19760914	US 1975-579472	19750521
PRAI	BE 1972-778135		19720117		
	DE 1972-2233143		19720706		
	US 1973-376232		19730703		

AB Decreased spherulite size in molding compns. from linear

polyoxymethylenes was accomplished by the addn. of .1eq. 10% branched polyoxymethylenes and 0.1-10% high-mol.-wt. polymer having f.p.-10 to -80.deg., softening point below the crystallite m.p. of the polyoxymethylenes, and particle size 0.1-5 .mu.. Thus, the addn. of 1.0% 1,3,5-trioxane-ethylene oxide-methyl glycidyl formal copolymer (I) [30527-34-5] and 3% ethylene-vinyl acetate copolymer (II) [24937-78-8] to ethylene oxide-1,3,5-trioxane copolymer (III) [24969-25-3] gave a thermoplastic molding material having spherulite size 21.mu., in comparison to 419.mu. for a III-II compn. and 521.mu. for III alone. II had f.p.-15.deg., melt index 24 g/10 min and particle size 0.2-2.mu.. The molded product from the I-II-III compn. had sphere-impression hardness (VDE 0302) 1410 kg/cm². Failure in the falling hammer impact strength test occurred at hammer wt. 500 g and fall distance 2330 cm.

ST polyoxymethylene molding compn; spherulite size reduction
polyoxymethylene; morphol polyoxymethylene molding compn; mech property
polyoxymethylene compn; **blend** polyoxymethylene molding

IT 24969-25-3

RL: USES (Uses)

(**blends** contg., for spherulite control in molding)

IT 24937-78-8

RL: USES (Uses)

(**blends** with polyoxymethylenes, for spherulite control in molding)

IT 30527-34-5

RL: USES (Uses)

(polyoxymethylene **blends** contg., for spherulite control in molding)

L13 ANSWER 22 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 1974:38023 CAPLUS

DN 80:38023

TI Poly(oxymethylene) moldings of reduced spherulite size

IN Kern, Rudolf; Schmidt, Heinz; Burg, Karl H.; Wolters, Ernst

PA Farbwerke Hoechst A.-G.

SO Ger. Offen., 16 pp. Addn. to Ger. Offen. 2,101,817 (CA 79;6105r).

CODEN: GWXXBX

DT Patent

LA German

IC C08G

CC 37-3 (Plastics Fabrication and Uses)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2166377	A1	19731031	DE 1971-2166377	19710115
	DE 2166377	B2	19760923		
AB	Linear poly(oxymethylenes), e.g. ethylene oxide-trioxane copolymer (I) [24969-25-3] were blended with 0.5-12% branched or crosslinked 1,4-butanediol diglycidyl ether-ethylene oxide-trioxane copolymer (II) [27082-00-4] as nucleating agent. The blends gave moldings of reduced spherulite size and improved mech. properties. Thus, 2:98 I (d. 1.41 g/ml, m.p. 166.deg.) was homogenized with 0.5% (based on I) 2,2'-methylenebis(6-tert-butyl-p-cresol), 0.1% dicyandiamide stabilizer and 2% 0.05:1.95:98 II (melt index 1.0 g/10 min) 4 min at 200.deg. and injection-molded to give samples of spherulite size 13 .mu., indentation hardness (VDE 0302) 1600 kg/cm ² , yield point (DIN 53,455) 720 kg/cm ² , and apparent modulus of rigidity 8140 kg/cm ² , as compared with 230 .mu., 1570, 652, and 7600 for II-free samples.				
ST	polyoxymethylene molding spherulite size; trioxane copolymer spherulite regulator; ethylene oxide copolymer spherulite; butanediol glycidyl ether nucleation				
IT	Polyoxymethylenes, uses and miscellaneous				
	RL: USES (Uses)				
	(molding of, crystal nucleating agents for spherulite size redn. in)				
IT	Crystal nucleation				
	(of polyoxymethylenes, by bis(epoxypropoxy)butane-ethylene oxide-trioxane polymers)				
IT	Molding of plastics and rubbers				

(of polyoxymethylenes, crystal nucleation agents for use in)

IT Spherulites
(size of, in polyoxymethylene molding, crystal nucleating agents for redn. of)

IT 27082-00-4
RL: USES (Uses)
(crystal nucleating agents, for spherulite size redn. in polyoxymethylene molding)

IT 24969-25-3 24969-26-4
RL: USES (Uses)
(molding of, crystal nucleating agents for spherulite size redn. in)

L13 ANSWER 23 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 1973:406105 CAPLUS

DN 79:6105

TI Thermoplastic poly(oxymethylene) molding compositions

IN Kern, Rudolf; Schmidt, Heinz; Burg, Karl Heinz; Wolters, Ernst

PA Farbwerke Hoechst A.-G.

SO Ger. Offen., 16 pp.

CODEN: GWXXBX

DT Patent

LA German

IC C08G

CC 36-3 (Plastics Manufacture and Processing)

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2101817	A1	19730405	DE 1971-2101817	19710115
	DE 2101817	B2	19740124		
	DE 2101817	C3	19790315		
	ZA 7200075	A	19720927	ZA 1972-75	19720106
	CA 992238	A1	19760629	CA 1972-131875	19720107
	NL 7200398	A	19720718	NL 1972-398	19720111
	CH 562286	A	19750530	CH 1972-391	19720112
	CS 216652	P	19821126	CS 1972-199	19720112
	IT 946556	A	19730521	IT 1972-19342	19720113
	AU 7237865	A1	19730719	AU 1972-37865	19720113
	JP 55019942	B4	19800529	JP 1972-5634	19720113
	BR 7200236	A0	19730524	BR 1972-236	19720114
	SU 416953	D	19740225	SU 1972-1737658	19720114
	AT 313581	B	19740225	AT 1972-326	19720114
	HU 164906	P	19740528	HU 1972-H01450	19720114
	SE 369079	B	19740805	SE 1972-426	19720114
	PL 77354	P	19750430	PL 1972-152915	19720114
	RO 59380	P	19760315	RO 1972-69394	19720114
	BE 778135	A1	19720717	BE 1972-112927	19720117
	FR 2121879	A5	19720825	FR 1972-1406	19720117
	FR 2121879	A1	19720825		
	FR 2121879	B1	19780908		
	GB 1382472	A	19750205	GB 1972-2235	19720117
	US 4181685	A	19800101	US 1976-676927	19760414
PRAI	DE 1971-2101817		19710115		
	DE 1971-2150038		19711007		
	US 1972-217667		19720113		
	US 1972-217668		19720113		

AB The title compns. of reduced spherulite size and improved workability for moldings of improved mech. properties contained linear trioxane polymers, e.g. 2:98 ethylene oxide-trioxane copolymer (I) [24969-25-3] and nucleating 0.05:1.95:98 1,4-butanediol **diglycidyl** ether-ethylene oxide-**trioxane** copolymer (II) [27082-00-4]. Thus, I of reduced sp. viscosity (0.5 g in 100 ml 98:2 butyrolactone-Ph₂NH, 140.deg.) 0.73 dl/g and d. 1.41 was homogenized with II [melt index (DIN 53,735; 190.deg., 2.16 kg) 1.0 g/10 min] 5.0, CH₂(C₆H₂Me(OH)CMe₃-5,2,3)2 0.5, and dicyandiamide 0.1% in an extruder for 4 min at 200.deg.; the mixt. had spherulite size 9 .mu. and gave moldings of ball hardness (VDE 0302, 10 sec) 1615 kg/cm² and yield strength 729 kg/cm² vs. 230 .mu., 1570 kg/cm², and 652 kg/cm², resp., for I contg. no II.

ST polyoxymethylene molding compn; trioxane copolymer molding compn; ethylene oxide polyoxymethylene molding; ethylene oxide polyoxymethylene molding; butanediol glycidyl ether polyoxymethylene; spherulite size polyoxymethylene molding; **blend** polyoxymethylene molding

IT Polyoxymethylenes, uses and miscellaneous
 RL: USES (Uses)
 (molding compns., contg. butanediol **diglycidyl** ether-ethylene oxide-**trioxane** polymers, with improved workability)

IT Spherulites
 (size of, in trioxane polymer molding compns., mech. property improvement by redn. in)

IT 24969-25-3 24969-26-4
 RL: USES (Uses)
 (molding compn., contg. butanediol **diglycidyl** ether-ethylene oxide-**trioxane** polymers, with improved workability)

IT 27082-00-4
 RL: USES (Uses)
 (molding compns., contg. trioxane copolymers and, with improved workability)

L13 ANSWER 24 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 1973:112241 CAPLUS

DN 78:112241

TI Thermoplastic poly(oxymethylene) molding materials

PA Farbwerke Hoechst A.-G.

SO Fr. Demande, 31 pp.

CODEN: FRXXBL

DT Patent

LA French

IC C08G

CC 36-6 (Plastics Manufacture and Processing)

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	FR 2121879	A5	19720825	FR 1972-1406	19720117
	FR 2121879	A1	19720825		
	FR 2121879	B1	19780908		
	DE 2101817	A1	19730405	DE 1971-2101817	19710115
	DE 2101817	B2	19740124		
	DE 2101817	C3	19790315		
	DE 2150038	A1	19730426	DE 1971-2150038	19711007
	DE 2150038	C3	19790412		
	US 4070415	A	19780124	US 1972-217668	19720113
PRAI	DE 1971-2101817		19710115		
	DE 1971-2150038		19711007		

AB Poly(oxymethylene) bead molding compns. for articles with improved ball hardness, and draw, tensile, and torsion strengths were prepd. from 90-99.999% linear poly(oxymethylene) and 0.001-10% branched or crosslinked poly(oxymethylene), e.g. trioxane copolymers. Thus, 2:98 ethylene oxide-trioxane copolymer [24969-25-3] (linear) was powd. and mixed with bis(2-hydroxy-3-tert-butyl-5-methylphenyl)methane [119-47-1] 0.5, dicyandiamide [461-58-5] 0.1, and 0.2:1.8:98 1,4-butanediol **diglycidyl** ether-ethylene oxide-**trioxane** copolymer [27082-00-4] 0.08% (linear polymer), the mixt. was **blended** in an extruder at 200.deg. and granulated to give a product contg. spherulites (av. size 32 .mu.). The product had ball hardness 1600, draw strength 690, tensile strength 560, and torsion strength 8180 kg/cm2, while a control (spherulite size 350 .mu.) contg. no branched terpolymer, under the same conditions had the resp. values: 1560, 650, 506, and 7600 kg/cm2.

ST polyoxymethylene spherulite molding; trioxane copolymer molding; dioxolane copolymer molding

IT Crystal nucleation
 (agents, for polyoxymethylenes, branched and crosslinked polyoxymethylenes as)

IT Spherulites
 (formation of, in polyoxymethylene, agents for)

IT Epoxides
 RL: USES (Uses)
 (polymers with trioxane, nucleating agents for polyoxymethylenes)

IT Polyoxymethylenes, properties
 RL: PRP (Properties)
 (spherulite formation in, agents for)

IT 25068-60-4 25749-05-7 26762-35-6 27082-00-4 29088-60-6
 30527-34-5 39329-89-0 41258-86-0 41258-92-8 41258-93-9
 41258-95-1 41258-96-2 41258-97-3
 RL: USES (Uses)
 (nucleation agents, for polyoxymethylenes)

IT 24969-25-3 24969-26-4
 RL: USES (Uses)
 (spherulite formation in moldings of, agents for)

L13 ANSWER 25 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 1965:67399 CAPLUS

DN 62:67399

OREF 62:12021h,12022a-e

TI Dispersions of synthetic polymers

PA Imperial Chemical Industries Ltd.

SO 20 pp.

DT Patent

LA Unavailable

IC C08G

CC 52 (Coatings, Inks, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	NL 64005495		19641117	NL	
PRAI	GB		19630516		

AB To prep. a polymer, a mixt. of lauryl methacrylate 97, glycidyl methacrylate 3, and Bz2O2 paste (60% solids in phthalate esters) 1.5 parts was added in 5 hrs. to 200 parts ligroine b. 100-20.degree. under N and refluxed for an addnl. 1 hr. until the product contained 31.2% nonvolatile components. One part lauryldimethylamine was added and refluxed for 1.5 hrs. until the viscosity of the polymer in 0.5% C6H6 soln. at 25.degree. was 0.097 and the acid no. was 0.82 mg. KOH/g. Methacrylic acid (1.45 part) and 0.006 part hydroquinone were added and the mixt. refluxed until the acid no. was 4.25 mg. KOH/g. to give a product (I) consisted of a 31.2% soln. of a polymer having an av. mol. wt. of 30,000 and contg. about 2.2 free methacrylic acid groups per mol. To prep. a copolymer, a mixt. of I 900, methacrylate 57.5, methacrylic acid 1.5, azodi isobutyronitrile (II) 3.6, and BuOAc 486 parts was heated under N for 2 hrs. at 90.degree., 1.8 g. II added and heated for 2 hrs. at 90.degree., the copolymer was pptd. in MeOH, dried, and dissolved in CHCl3 to form a soln. (III) contg. 29.7% solid **block** polymer of poly- (lauryl methacrylate) and a Me methacrylate-methacrylic acid copolymer having an av. mol. wt. of 8000-10,000. To make a dispersion of the polymer a mixt. of III 16, 2,2-bis(4-hydroxy-phenyl)propane 8.55 (IV), terephthaloyl dichloride (V) 3.8, isophthaloyl dichloride (VI) 3.81, EtOAc 15, and CH2Cl2 90 parts was refluxed and 8.45 parts 2,6-lutidine added. After exothermic reaction subsided, a soln. of 11.41 parts V in 11.41 parts VI, and 110 parts CH2Cl2 was added, a soln. of 25.65 parts IV in 45 parts EtOAc added, 90 parts CH2Cl2, and 25.35 parts 2,6-lutidine added. After intense exothermic reaction subsided, 100 parts CH2Cl2 added, the mixt. extd. with water, the org. base soln. dild. with ligroine b. 70-90.degree. to ppt. the polymer in the form of a stabilized dispersion of fine particles. Neth. Appl. 6,405,432; 26 pp. A mixt. of n-octyl methacrylate 299.7, ethylene glycol monomethacrylate 33.3, II 6.6, and MeCOEt 333 parts was added in 2 hrs. to a soln. of 6.6 parts II in 333 parts MeCOEt under reflux. The mixt. was refluxed for 1 hr. until the nonvolatile components amounted to 31.2%. The polymers were pptd. with MeOH, dried, and dissolved in C6H6 to form a viscous syrup (VII) contg. 80% nonvolatile components. The viscosity of the polymer was 0.08 in 0.5% soln. in C6H6 at 25.degree.. To prep. a stabilized dispersion of the polymer, 2.81 parts 2,6-lutidine was added to a mixt. of VI 15.25, V 15.23, VII 21.5, and EtOAc 250 parts, the mixt.

refluxed for 1 hr., 80% of a mixt. of 33.17 parts IV in 100 parts 2,6-lutidine added, 30.9 parts 2,6-lutidine added, the remaining 20% of the diol soln. added, refluxed for 1 hr., and filtered the product to remove the ppt. The filtrate was a dispersion of the polymer having a viscosity of 0.6 in 0.5% soln. in CHCl₃ at 25.degree.. Similarly dispersed were: polymers of ethylene oxide, **trioxane**, .beta.-propiolactone, **glycidyl** acetate, Ph glycidyl ether, epichlorohydrin, .epsilon.-caprolactam, HCHO, Ph isocyanate, and a copolymer of bis(chloromethyl)oxacyclobutane and Ph glycidyl ether. The dispersions are excellent coating compns. and have better rheologic properties than those formed in an aq. medium.

=>

L18 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2002 ACS

AN 2002:129225 CAPLUS

DN 136:184681

TI Polyacetal compositions with good sliding property and dimensional stability

IN **Tajima, Yoshihisa; Okawa, Hidetoshi; Kawaguchi, Kuniaki**

PA Polyplastics Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08L059-04

ICS C08G002-18; C08L059-04; C08L053-00; C08L091-00; C08L023-26;
C08L051-00

CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002053731	A2	20020219	JP 2000-239382	20000808
	CN 1337423	A	20020227	CN 2001-125529	20010808
PRAI	JP 2000-239382	A	20000808		

AB The compns., useful for sliding parts, comprise (A) 100 parts polyacetal copolymers of (a-1) 100 parts trioxane, (a-2) 0.0005-2 parts compds. having .gtoreq.2 cyclic ether units in a mol., and (a-3) 0-20 parts other copolymerizable cyclic ethers, which are **blended** with (B) 0.5-40 parts (b-1) **graft** or **block** copolymers of polyolefins with .gtoreq.1 vinyl polymers and/or (b-2) polyolefins modified with unsatd. carboxylic acid (anhydrides) and/or (C) 0.1-5 parts lubricants. Thus, a compn. contg. 100 parts 100/0.1/3.3 **trioxane** -trimethylolpropane **triglycidyl** ether-1,3-dioxolane copolymer and 5 parts acrylonitrile-ethylene-styrene **graft** copolymer showed good wear resistance against steel and polyacetals.

ST polyacetal **graft** polyolefin sliding wear resistance; dimensional stability wear resistance polyacetal **block** polyolefin **blend**; trioxane copolymer polyolefin lubricant **blend**

IT Fatty acids, properties

RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(C.gtoeq.10, lubricants; polyacetal compns. with good sliding property and dimensional stability)

IT Alcohols, properties

RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(aliph., C.gtoeq.10, lubricants; polyacetal compns. with good sliding property and dimensional stability)

IT Paraffin oils

Paraffin waxes, properties

Polysiloxanes, properties

RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(lubricants; polyacetal compns. with good sliding property and dimensional stability)

IT Polyolefins

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(modified; polyacetal compns. with good sliding property and dimensional stability)

IT Lubricants

(polyacetal compns. with good sliding property and dimensional stability)

IT Polyoxymethylenes, properties

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(polyacetal compns. with good sliding property and dimensional stability)

IT Polymer **blends**
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (polyacetal compns. with good sliding property and dimensional stability)

IT Polyoxymethylenes, properties
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (polyoxyalkylene-; polyacetal compns. with good sliding property and dimensional stability)

IT Polyoxyalkylenes, properties
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (polyoxymethylene-; polyacetal compns. with good sliding property and dimensional stability)

IT Machinery parts
 (sliding; polyacetal compns. with good sliding property and dimensional stability)

IT 2778-96-3, Stearyl stearate 31900-57-9D, Dimethylsilanediol homopolymer, trimethylsilyl-terminated 42557-10-8, Dimethylsilanediol homopolymer, sru, trimethylsilyl-terminated 202189-09-1, Ethylene glycol monoisostearate
 RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (lubricant; polyacetal compns. with good sliding property and dimensional stability)

IT 101-84-8D, Diphenyl ether, derivs.
 RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (lubricants; polyacetal compns. with good sliding property and dimensional stability)

IT 108-31-6D, **Maleic** anhydride, reaction products with polyolefins 9002-88-4D, Polyethylene, maleated 9010-86-0D, Ethyl acrylate-ethylene copolymer, maleated 41258-95-1 106826-13-5, Acrylonitrile-ethylene-styrene **graft** copolymer 344396-24-3, 1,3-Dioxolane-pentaerythritol **tetraglycidyl** ether-**trioxane** copolymer 344396-25-4, 1,3-Dioxolane-trimethylolpropane **triglycidyl** ether-**trioxane** copolymer 344396-26-5, 1,3-Dioxolane-glycerol **triglycidyl** ether-**trioxane** copolymer 381164-85-8, Ethylene oxide-trimethylolpropane **triglycidyl** ether-**trioxane** copolymer
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (polyacetal compns. with good sliding property and dimensional stability)

L18 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2002 ACS

AN 2001:435177 CAPLUS

DN 135:20464

TI Branched polyacetal resin composition having good sliding properties

IN **Tajima, Yoshihisa; Okawa, Hidetoshi;** Kawaguchi, Kuniaki

PA Polyplastics Co., Ltd., Japan

SO PCT Int. Appl., 34 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM C08L059-04

ICS C08G002-18

CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	-----
PI	WO 2001042357	A1	20010614	WO 2000-JP8543	20001201
	W: BR, CN, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				

	JP 2001164085	A2	20010619	JP 1999-346044	19991206
	BR 2000007950	A	20020122	BR 2000-7950	20001201
PRAI	JP 1999-346044	A	19991206		
	WO 2000-JP8543	W	20001201		

AB A polyacetal resin material which has excellent sliding properties imparted thereto and gives a molding improved in appearance, dimensional accuracy, mech. properties, etc. The branched polyacetal compn. comprises (A) 100 parts branched polyacetal copolymer having oxymethylene groups as the main repeating units and having specific branched units, (B) 0.5-40 parts one or more polymers selected from the group consisting of the following polymers (B-1) **graft** or **block** copolymers obtained from (b-1) an olefin polymer and (b-2) at least one vinyl polymer and polymers (B-2) modified olefin polymers obtained by modifying an olefin polymer (b-3) with at least one compds. selected from the group consisting of unsatd. carboxylic acids, unsatd. carboxylic anhydrides, and derivs. of these and/or (C) 0.1-5 parts lubricant.

ST branched polyacetal resin sliding; **trioxane glycidyl** compd cyclic ether contg polyacetyl

IT Paraffin oils
Polysiloxanes, properties
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(Lubricants; branched polyacetal resin compn.)

IT Lubricants
(branched polyacetal resin compn.)

IT Polymer **blends**
RL: PRP (Properties)
(branched polyacetal resin compn.)

IT Polyoxymethylenes, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)
(polyoxyalkylene-; branched polyacetal resin compn.)

IT Polyoxyalkylenes, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)
(polyoxymethylene-; branched polyacetal resin compn.)

IT 2778-96-3, Stearyl stearate 9016-00-6, Dimethylsilanediol homopolymer, sru 31900-57-9, Dimethylsilanediol homopolymer 202189-09-1, Ethylene glycol monoisostearate
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(Lubricants; branched polyacetal resin compn.)

IT 256337-65-2P, Butyl glycidyl ether-1,3-dioxolane-trioxane copolymer 256337-66-3P, 1,3-Dioxolane-2-ethylhexyl **glycidyl** ether-**trioxane** copolymer 262852-16-4P, 1,3-Dioxolane-**glycidyl** stearate-**trioxane** copolymer 314262-85-6P, Butyl **glycidyl** ether-ethylene oxide-**trioxane** copolymer
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)
(branched polyacetal resin compn.)

IT 9002-88-4D, Polyethylene, **maleic** anhydride modified 9010-86-0D, Ethylene-ethyl acrylate copolymer, **maleic** anhydride modified 106826-13-5, Acrylonitrile-ethylene-styrene **graft** copolymer
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(branched polyacetal resin compn.)

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

(1) Polyplastics Co; JP 08012734 A 1996 CAPLUS

L18 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2002 ACS

AN 2000:911349 CAPLUS

DN 134:57529

TI Polyacetal resin compositions comprising polyacetals and branched polyacetals

IN Okawa, Hidetoshi; Tajima, Yoshihisa; Kawaguchi, Kuniaki

PA Polyplastics Co., Ltd., Japan

SO PCT Int. Appl., 20 pp.

CODEN: PIXXD2
 DT Patent
 LA Japanese
 IC ICM C08L059-00
 ICS C08G002-22; C08L059-04
 CC 37-6 (Plastics Manufacture and Processing)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000078866	A1	20001228	WO 2000-JP4150	20000623
	W: BR, CA, CN, DE, MX, US RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	JP 2001002885	A2	20010109	JP 1999-177268	19990623
	EP 1215245	A1	20020619	EP 2000-978919	20000623
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
	BR 2000007025	A	20011127	BR 2000-7025	20000707
PRAI	JP 1999-177268	A	19990623		
	WO 2000-JP4150	W	20000623		

AB A polyacetal resin compn. has high rigidity and is excellent in surface hardness, sliding properties, etc. The compn. comprises 100 parts polyacetal resin (A) and 0.01-100 parts branched polyacetal copolymer (B) obtained by copolymerizing 100 parts trioxane (a), 0.01-10 parts monofunctional glycidyl compd. (b), and 0-20 parts cyclic ether compd. (c) copolymerizable with trioxane. Thus, **trioxane** 100, Bu **glycidyl** ether 0.2, and 1,3-dioxolane 3.5 parts were polymerized in the presence of methylal (mol. wt. modifier) and trifluoroboron (catalyst) to give a branched polyacetal, 100 parts of which was melt kneaded with 0.03 parts pentaerythritol tetrakis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate] and 0.15 parts melamine to give pellets. Duracon M 90 (100 parts) and 5 parts branched polyacetal pellets were melt kneaded to give a polyacetal resin compn. showing flexural modulus 2590 MPa, tensile strength (ASTM D 638) 65.0 MPa, Rockwell hardness 93 (M scale), and durable sliding property.

ST polyacetal resin contg **trioxane glycidyl** compd cyclic ether copolymer

IT Polyoxymethylenes, preparation
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyoxyalkylene-, **graft**; prepn. of polyacetal resin compns. comprising polyacetals and branched polyacetals)

IT Polyoxymethylenes, preparation
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyoxyalkylene-; prepn. of polyacetal resin compns. comprising polyacetals and branched polyacetals)

IT Polyoxyalkylenes, preparation
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyoxymethylene-, **graft**; prepn. of polyacetal resin compns. comprising polyacetals and branched polyacetals)

IT Polyoxyalkylenes, preparation
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyoxymethylene-; prepn. of polyacetal resin compns. comprising polyacetals and branched polyacetals)

IT Polyoxymethylenes, preparation
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (prepn. of polyacetal resin compns. comprising polyacetals and branched polyacetals)

IT Polymer **blends**
RL: PRP (Properties); TEM (Technical or engineered material use); USES
(Uses)
(prepn. of polyacetal resin compns. comprising polyacetals and branched
polyacetals)

IT 256337-60-7P 256337-65-2P, Butyl glycidyl ether-1,3-dioxolane-trioxane
copolymer 256337-66-3P, 1,3-Dioxolane-2-ethylhexyl **glycidyl**
ether-**trioxane** copolymer 313218-20-1P 313218-21-2P
313350-58-2P 314269-97-1P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP
(Properties); TEM (Technical or engineered material use); PREP
(Preparation); USES (Uses)
(prepn. of polyacetal resin compns. comprising polyacetals and branched
polyacetals)

IT 27342-38-7, Duracon M 90
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or
engineered material use); USES (Uses)
(prepn. of polyacetal resin compns. comprising polyacetals and branched
polyacetals)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Anon; US 5929195 A CAPLUS
(2) Polyplastics Co; US 5929195 A CAPLUS
(3) Polyplastics Co; JP 439319 A 1992
(4) Polyplastics Co; JP 1135649 A 1999

=>

FILE 'CAPLUS' ENTERED AT 10:58:08 ON 03 SEP 2002

L1 245 S POLYACETAL AND FORMALDEHYDE
L2 359 S POLYACETAL? AND ?FORMALDEHYDE?
L3 8 S ?GLYCIDYL? AND L2

=>

L16 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS

AN 1996:197046 CAPLUS

DN 124:234548

TI Manufacture of recyclable polyacetal copolymer resins for blow molding and hollow molding

IN Kawaguchi, Kuniaki; Yamamoto, Kaoru

PA Polyplastics Kk, Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08G002-10

ICS B29C049-00; C08L059-00

ICI B29K261-00, B29L022-00

CC 38-3 (Plastics Fabrication and Uses)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08012734	A2	19960116	JP 1994-146192	19940628 <--
	JP 2828903	B2	19981125		

AB The title resins with wt.-av. mol. wt. 1 .times. 105 - 3 .times. 105, mol. wt. .gtoreq.1 .times. 106, and shear viscosity 1.0 .times. 103 - 3.5 .times. 103 Pa-s (190.degree. shear speed 120 s-1) are constituted of branched or crosslinked polyacetal copolymers composed of (a) main chains comprising polyoxymethylene copolymers contg. oxymethylene group as main repeating units and contg. 0.2-10% C2-4 oxyalkylenes and (b) 0.01-0.2% glycidyl ether residues as branch or crosslinking parts contg. 1-10% polymer components. Thus, trioxane contg. 1,3-dioxolane 3.3, 1,4-butanediol diglycidyl ether 0.07, and methylal 0.03% was fed to a reactor with BF3.cntdot.Bu2O complex, copolymd. at 80.degree., fed to a crusher wherein Et3N soln. was also added, cooled, sepd., washed, and dried to give a crude copolymer, 100 parts of which was melt-kneaded at 205.degree. with 0.3 part Irganox 1010 and 0.15 part melamine, purified, and pelletized to give a polyacetal resin. The resin was blow-molded at 200.degree. to show the good moldability.

ST polyacetal glycidyl ether branch crosslinking moldability; hollow molding glycidyl crosslinked branched polyacetal; trioxane dioxolane methylal copolymer manuf; butanediol diglycidyl ether crosslinker trioxane copolymer; recycling polyacetal glycidyl ether copolymer

IT Polyoxymethylenes, properties

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(manuf. of recyclable polyacetal copolymer resins for blow molding and hollow molding)

IT 41258-95-1P, 1,4-Butanediol diglycidyl ether-1,3-dioxolane-trioxane copolymer 175018-93-6P 175018-94-7P

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(manuf. of recyclable polyacetal copolymer resins for blow molding and hollow molding)

=>

L16 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS
 AN 1996:197046 CAPLUS
 DN 124:234548
 TI Manufacture of recyclable polyacetal copolymer resins for blow molding and hollow molding
 IN Kawaguchi, Kuniaki; Yamamoto, Kaoru
 PA Polyplastics Kk, Japan
 SO Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C08G002-10
 ICS B29C049-00; C08L059-00
 ICI B29K261-00, B29L022-00
 CC 38-3 (Plastics Fabrication and Uses)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08012734	A2	19960116	JP 1994-146192	19940628 <--
	JP 2828903	B2	19981125		
AB	<p>The title resins with wt.-av. mol. wt. 1 .times. 105 - 3 .times. 105, mol. wt. .gtoreq.1 .times. 106, and shear viscosity 1.0 .times. 103 - 3.5 .times. 103 Pa-s (190.degree. shear speed 120 s-1) are constituted of branched or crosslinked polyacetal copolymers composed of (a) main chains comprising polyoxymethylene copolymers contg. oxymethylene group as main repeating units and contg. 0.2-10% C2-4 oxyalkylenes and (b) 0.01-0.2% glycidyl ether residues as branch or crosslinking parts contg. 1-10% polymer components. Thus, trioxane contg. 1,3-dioxolane 3.3, 1,4-butanediol diglycidyl ether 0.07, and methylal 0.03% was fed to a reactor with BF3.cntdot.Bu2O complex, copolymd. at 80.degree., fed to a crusher wherein Et3N soln. was also added, cooled, sepd., washed, and dried to give a crude copolymer, 100 parts of which was melt-kneaded at 205.degree. with 0.3 part Irganox 1010 and 0.15 part melamine, purified, and pelletized to give a polyacetal resin. The resin was blow-molded at 200.degree. to show the good moldability.</p>				
ST	<p>polyacetal glycidyl ether branch crosslinking moldability; hollow molding glycidyl crosslinked branched polyacetal; trioxane dioxolane methylal copolymer manuf; butanediol diglycidyl ether crosslinker trioxane copolymer; recycling polyacetal glycidyl ether copolymer</p>				
IT	<p>Polyoxymethylenes, properties RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation) (manuf. of recyclable polyacetal copolymer resins for blow molding and hollow molding)</p>				
IT	<p>41258-95-1P, 1,4-Butanediol diglycidyl ether-1,3-dioxolane-trioxane copolymer 175018-93-6P 175018-94-7P RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation) (manuf. of recyclable polyacetal copolymer resins for blow molding and hollow molding)</p>				

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L6 ANSWER 12 OF 25 CAPLUS COPYRIGHT 2002 ACS
 AN* 2001:444595 CAPLUS
 DN 135:34027
 TI Impact-resistant branched polyacetal resin compositions
 IN **Okawa, Hidetoshi**; Kawaguchi, Kuniaki; **Tajima, Yoshihisa**
 PA Polyplastics Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C08L059-04
 ICS C08G002-18; C08L059-04; C08L075-04; C08L051-00
 CC 37-6 (Plastics Manufacture and Processing)
 FAN.CNT 1

14 = 19

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001164086	A2	20010619	JP 1999-344193	19991203
AB	Polyacetal resins (100 parts) contain 3-50 parts thermoplastic polyurethanes and core-shell polymers. Thus, pellets contained 0.3:3.3:100 Bu glycidyl ether-1,3-dioxolane-trioxane copolymer 100, a thermoplastic polyurethane 15, a stabilizer 0.03, and melamine 0.15 part.				
ST	impact resistant polyacetal polyurethane blend; core shell polymer polyacetal impact resistant				
IT	Polymers, uses RL: MOA (Modifier or additive use); USES (Uses) (core-shell; impact-resistant branched polyacetal resin compns. contg. polyurethanes and core-shell polymers)				
IT	Ethers, preparation RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses) (cyclic, polymers with trioxane; impact-resistant branched polyacetal resin compns. contg. polyurethanes and core-shell polymers)				
IT	Acetals RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses) (formals, cyclic, polymers with trioxane; impact-resistant branched polyacetal resin compns. contg. polyurethanes and core-shell polymers)				
IT	Impact-resistant materials (impact-resistant branched polyacetal resin compns. contg. polyurethanes and core-shell polymers)				
IT	Polyoxymethylenes, preparation RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses) (impact-resistant branched polyacetal resin compns. contg. polyurethanes and core-shell polymers)				
IT	Polyurethanes, uses RL: MOA (Modifier or additive use); USES (Uses) (polyester-; impact-resistant branched polyacetal resin compns. contg. polyurethanes and core-shell polymers)				
IT	Polyurethanes, uses RL: MOA (Modifier or additive use); USES (Uses) (polyether-; impact-resistant branched polyacetal resin compns. contg. polyurethanes and core-shell polymers)				
IT	Polymerization (ring-opening; impact-resistant branched polyacetal resin compns. contg. polyurethanes and core-shell polymers)				
IT	31075-01-1P, 1,3-Dioxolane-glycidyl phenyl ether-trioxane copolymer 256337-60-7P, 1,3-Dioxolane-glycidyl o-phenylphenol ether-trioxane copolymer 256337-65-2P, Butyl glycidyl ether-1,3-dioxolane-trioxane copolymer 256337-66-3P, 2-Ethylhexyl glycidyl ether-1,3-dioxolane-trioxane copolymer 314262-85-6P, Butyl glycidyl ether-ethylene oxide-trioxane copolymer 342896-46-2P, Cresyl glycidyl ether-1,3-dioxolane-trioxane copolymer RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses) (impact-resistant branched polyacetal resin compns. contg.				

polyurethanes and core-shell polymers)
IT 170618-16-3, PO 0135
RL: MOA (Modifier or additive use); USES (Uses)
(impact-resistant branched polyacetal resin compns. contg.
polyurethanes and core-shell polymers)

L6 ANSWER 13 OF 25 CAPLUS COPYRIGHT 2002 ACS
AN 2001:442283 CAPLUS
DN 135:34016
TI Branched polyacetal resin compositions having stable electric conductivity
IN Kawaguchi, Kuniaki; **Okawa, Hidetoshi; Tajima, Yoshihisa**
PA Polyplastics Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08L059-04
ICS C08K003-04; C08K007-06; C08G002-38
CC 37-6 (Plastics Manufacture and Processing)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001164088	A2	20010619	JP 1999-348342	19991208
AB	The title compns. contain 0.1-30 phr carbon black and/or carbon fibers. Thus, pellets contained 3.4:0.3:100 1,3-dioxolane-glycidyl Ph ether-trioxane copolymer 100, Ketjen Black ECX 10, and a stabilizer 0.15 part.				
ST	elec cond polyacetal carbon black; fiber carbon polyacetal elec cond; trioxane dioxolane glycidyl ether copolymer				
IT	Carbon black, uses RL: MOA (Modifier or additive use); USES (Uses) (Ketjen Black ECX; branched polyacetal resin compns. contg. carbon black and carbon fibers having stable elec. cond.)				
IT	Electric conductivity Electric conductors (branched polyacetal resin compns. contg. carbon black and carbon fibers having stable elec. cond.)				
IT	Polyoxymethylenes, preparation RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses) (branched polyacetal resin compns. contg. carbon black and carbon fibers having stable elec. cond.)				
IT	Carbon fibers, uses RL: MOA (Modifier or additive use); USES (Uses) (branched polyacetal resin compns. contg. carbon black and carbon fibers having stable elec. cond.)				
IT	Ethers, preparation RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses) (cyclic, polymers with trioxane; branched polyacetal resin compns. contg. carbon black and carbon fibers having stable elec. cond.)				
IT	Acetals RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses) (formals, cyclic, polymers with trioxane; branched polyacetal resin compns. contg. carbon black and carbon fibers having stable elec. cond.)				
IT	Epoxides RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses) (polymers with trioxane; branched polyacetal resin compns. contg. carbon black and carbon fibers having stable elec. cond.)				
IT	Polymerization (ring-opening; branched polyacetal resin compns. contg. carbon black and carbon fibers having stable elec. cond.)				
IT	31075-01-1P, 1,3-Dioxolane-glycidyl phenyl ether-trioxane copolymer 134245-74-2P, Ethylene oxide-glycidyl phenyl ether-trioxane copolymer				

256337-60-7P, 1,3-Dioxolane-glycidyl o-phenylphenol ether-trioxane
copolymer 256337-65-2P, Butyl glycidyl ether-1,3-dioxolane-trioxane
copolymer

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP
(Properties); PREP (Preparation); USES (Uses)
(branched polyacetal resin compns. contg. carbon black and carbon
fibers having stable elec. cond.)

IT 320381-64-4, HTA-C 6US

RL: MOA (Modifier or additive use); USES (Uses)
(branched polyacetal resin compns. contg. carbon black and carbon
fibers having stable elec. cond.)

L6 ANSWER 14 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 2001:435177 CAPLUS

DN 135:20464

TI Branched polyacetal resin composition having good sliding properties

IN **Tajima, Yoshihisa; Okawa, Hidetoshi;** Kawaguchi,
Kuniaki

PA Polyplastics Co., Ltd., Japan

SO PCT Int. Appl., 34 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM C08L059-04

ICS C08G002-18

CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001042357	A1	20010614	WO 2000-JP8543	20001201
	W: BR, CN, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,				
	PT, SE, TR				
	JP 2001164085	A2	20010619	JP 1999-346044	19991206
	BR 2000007950	A	20020122	BR 2000-7950	20001201
PRAI	JP 1999-346044	A	19991206		
	WO 2000-JP8543	W	20001201		

AB A polyacetal resin material which has excellent sliding properties
imparted thereto and gives a molding improved in appearance, dimensional
accuracy, mech. properties, etc. The branched polyacetal compn. comprises
(A) 100 parts branched polyacetal copolymer having oxymethylene groups as
the main repeating units and having specific branched units, (B) 0.5-40
parts one or more polymers selected from the group consisting of the
following polymers (B-1) graft or block copolymers obtained from (b-1)an
olefin polymer and (b-2) at least one vinyl polymer and polymers (B-2)
modified olefin polymers obtained by modifying an olefin polymer (b-3)
with at least one compds. selected from the group consisting of unsatd.
carboxylic acids, unsatd. carboxylic anhydrides, and derivs. of these
and/or (C) 0.1-5 parts lubricant.

ST branched polyacetal resin sliding; trioxane glycidyl compd cyclic ether
contg polyacetyl

IT Paraffin oils

Polysiloxanes, properties

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(Lubricants; branched polyacetal resin compn.)

IT Lubricants

(branched polyacetal resin compn.)

IT Polymer blends

RL: PRP (Properties)

(branched polyacetal resin compn.)

IT Polyoxymethylenes, preparation

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP
(Properties); PREP (Preparation); USES (Uses)

(polyoxyalkylene-; branched polyacetal resin compn.)

IT Polyoxyalkylenes, preparation

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP
(Properties); PREP (Preparation); USES (Uses)

(polyoxymethylene-; branched polyacetal resin compn.)
 IT 2778-96-3, Stearyl stearate 9016-00-6, Dimethylsilanediol homopolymer,
 sru 31900-57-9, Dimethylsilanediol homopolymer 202189-09-1, Ethylene
 glycol monoisostearate
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
 (Lubricants; branched polyacetal resin compn.)
 IT 256337-65-2P, Butyl glycidyl ether-1,3-dioxolane-trioxane copolymer
 256337-66-3P, 1,3-Dioxolane-2-ethylhexyl glycidyl ether-trioxane copolymer
 262852-16-4P, 1,3-Dioxolane-glycidyl stearate-trioxane copolymer
 314262-85-6P, Butyl glycidyl ether-ethylene oxide-trioxane copolymer
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP
 (Properties); PREP (Preparation); USES (Uses)
 (branched polyacetal resin compn.)
 IT 9002-88-4D, Polyethylene, maleic anhydride modified 9010-86-0D,
 Ethylene-ethyl acrylate copolymer, maleic anhydride modified
 106826-13-5, Acrylonitrile-ethylene-styrene graft copolymer
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
 (branched polyacetal resin compn.)

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Polyplastics Co; JP 08012734 A 1996 CAPLUS

L6 ANSWER 15 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 2001:417074 CAPLUS

DN 135:20453

TI Branched polyacetal resin composition having good wreathing stability

IN Kawaguchi, Kuniaki; Okawa, Hidetoshi; Tajima, Yoshihisa

PA Polyplastics Co., Ltd., Japan

SO PCT Int. Appl., 23 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM C08L059-04

ICS C08G002-18; C08K005-18

CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001040376	A1	20010607	WO 2000-JP8541	20001201
	W: BR, CN, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
	JP 2001164087	A2	20010619	JP 1999-344194	19991203
	BR 2000007948	A	20020129	BR 2000-7948	20001201
PRAI	JP 1999-344194	A	19991203		
	WO 2000-JP8541	W	20001201		

AB A resin material which has improved weathering (light) stability while retaining excellent properties inherent in a polyacetal resin, such as appearance and rigidity. The branched polyacetal resin compn. comprises (A) 100 parts branched polyacetal copolymer having oxymethylene groups as the main repeating units and branched units represented by $-(CH_2)_mCH(R)(CH_2)_nO-$, where m, n = integer 0-5 provided m + n = 1-5 and R = monovalent org. group having a mol. wt. 40-1,000, and (B) 0.01-5 parts weathering (light) stabilizer (C) 0.01-5 parts hindered amine substance. Thus, trioxane 100, Bu glycidyl ether 0.2, and 1,3-dioxolane 3.4 parts were polymd., 100 parts of which was blended with 0.2 parts 2-[2-hydroxy-3,5-bis(.alpha.,.alpha.-dimethylbenzyl)phenyl]benzotriazole and 0.2 parts bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate, melt kneaded at 210.degree. to give a resin compn.

ST branched polyacetal resin contg trioxane glycidyl compd cyclic ether

IT Amines, uses

RL: MOA (Modifier or additive use); USES (Uses)

(hindered; prepn. of branched polyacetal resin compn. having good wreathing stability)

IT Polyoxymethylenes, preparation

RL: IMF (Industrial manufacture); PREP (Preparation)

(polyoxyalkylene-; prepn. of branched polyacetal resin compn. having

good wreathing stability)
 IT Polyoxyalkylenes, preparation
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (polyoxymethylene-; prepn. of branched polyacetal resin compn. having
 good wreathing stability)
 IT Light stabilizers
 (prepn. of branched polyacetal resin compn. having good wreathing
 stability)
 IT 52829-07-9, Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate 65447-77-0
 RL: MOA (Modifier or additive use); USES (Uses)
 (hindered amine; prepn. of branched polyacetal resin compn. having good
 wreathing stability)
 IT 53774-08-6, 2-Hydroxy-4-oxybenzylbenzophenone 70321-86-7
 RL: MOA (Modifier or additive use); USES (Uses)
 (light stabilizer; prepn. of branched polyacetal resin compn. having
 good wreathing stability)
 IT 31075-01-1P, 1,3-Dioxolane-phenyl glycidyl ether-trioxane copolymer
 256337-60-7P 256337-65-2P, Butyl glycidyl ether-1,3-dioxolane-trioxane
 copolymer 256337-66-3P, 1,3-Dioxolane-2-ethylhexyl glycidyl
 ether-trioxane copolymer 314262-85-6P, Butyl glycidyl ether-ethylene
 oxide-trioxane copolymer
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (prepn. of branched polyacetal resin compn. having good wreathing
 stability)

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Polyplastics Co; JP 08012734 A 1996 CAPLUS

L6 ANSWER 16 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 2001:417073 CAPLUS

DN 135:20452

TI Branched polyacetal resin compositions having good antistatic properties

IN Okawa, Hidetoshi; Kawaguchi, Kuniaki; Tajima, Yoshihisa

PA Polyplastics Co., Ltd., Japan

SO PCT Int. Appl., 23 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM C08L059-04

ICS C08G002-18; C08K005-103; C08L059-04; C08L071-02

CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001040375	A1	20010607	WO 2000-JP8540	20001201
	W: BR, CN, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
	JP 2001158850	A2	20010612	JP 1999-343617	19991202
	BR 2000007947	A	20020129	BR 2000-7947	20001201
PRAI	JP 1999-343617	A	19991202		
	WO 2000-JP8540	W	20001201		

AB A resin material which has antistatic properties imparted thereto while retaining excellent properties inherent in a polyacetal resin, such as appearance and rigidity. The branched polyacetal resin compn. comprises (A) 100 parts branched polyacetal copolymer having oxymethylene groups as the main repeating units and branched units represented by $-(CH_2)_mCH(R)(CH_2)_nO-$, where m, n = integer 0-5 provided m + n = 1-5 and R = monovalent org. group having a mol. wt. 40-1,000, and (B) 0.1-30 parts a compd. having polyalkylene ether unit as a main component and/or (C) 0.01-10 parts hydroxylated ester of a fatty acid with a polyhydric alc. Thus, trioxand 100, Bu glycidyl ether 0.3, and 1,3-dioxolane 3.3 parts were polymd., 100 parts of which was blended with 5 parts polyethylene glycol, melt kneaded at 210.degree. to give a resin compn. showing tensile strength 61 MPa, flexural modulus 2350 MPa, and surface resistance 5.7 .times. 10¹².

ST branched polyacetal resin antistatic

IT Polyoxyalkylenes, uses
 RL: POF (Polymer in formulation); USES (Uses)
 (branched polyacetal resin compn.)

IT Acetals
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (polymers; branched polyacetal resin compn.)

IT 31075-01-1P, 1,3-Dioxolane-phenyl glycidyl ether-trioxane copolymer
 256337-60-7P, 1,3-Dioxolane-2-phenylphenol glycidyl ether-trioxane
 copolymer 256337-65-2P, Butyl glycidyl ether-1,3-dioxolane-trioxane
 copolymer 256337-66-3P, 2-Ethylhexyl glycidyl ether-1,3-dioxolane-
 trioxane copolymer 314262-85-6P, Butyl glycidyl ether-ethylene
 oxide-trioxane copolymer 342896-46-2P
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PREP
 (Preparation); USES (Uses)
 (branched polyacetal resin compn.)

IT 25190-06-1, Poly(tetramethylene glycol) 25322-68-3, Polyethylene glycol
 25322-69-4, Polypropylene glycol 27215-38-9, Glycerin monolaurate
 31566-31-1, Glycerin monostearate
 RL: POF (Polymer in formulation); USES (Uses)
 (branched polyacetal resin compn.)

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Polyplastics Co; JP 08012734 A 1996 CAPLUS

L6 ANSWER 17 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 2001:235643 CAPLUS

DN 134:267040

TI Branched polyacetal compositions with balanced toughness and rigidity

IN **Tajima, Yoshihisa; Okawa, Hidetoshi;** Kawaguchi,
 Kuniaki

PA Polyplastics Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08L059-00

ICS C08G002-18; C08K003-00

CC 37-3 (Plastics Manufacture and Processing)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001089631	A2	20010403	JP 1999-270102	19990924
AB	The compns. comprise (A) 100 parts polyacetals contg. branched repeating units (CH ₂)mCHR(CH ₂)nO (m, n = 0-5; m + n = 1-5; R = monovalent org. group with mol. wt. 40-1000) and (B) 2-100 parts inorg. fillers. Thus, a compn. comprising 100 parts trioxane-Bu glycidyl ether-1,3-dioxolane copolymer and 30 parts glass fibers was injection-molded to give a test piece showing tensile strength 128 MPa, elongation 3.4%, flexural modulus 7.6 GPa, and deflection temp. under load 165.degree..				
ST	branch polyacetal glass fiber toughness; trioxane dioxolane glycidyl ether polyacetal rigidity				
IT	Carbon fibers, uses Glass beads Glass fibers, uses Mica-group minerals, uses RL: MOA (Modifier or additive use); USES (Uses) (branched polyacetal compns. with balanced toughness and rigidity)				
IT	Reinforced plastics RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses) (fiber-reinforced; branched polyacetal compns. with balanced toughness and rigidity)				
IT	Glass, uses RL: MOA (Modifier or additive use); USES (Uses) (flakes; branched polyacetal compns. with balanced toughness and rigidity)				
IT	Clays, uses				

RL: MOA (Modifier or additive use); USES (Uses)
 (kaolinitic; branched polyacetal compns. with balanced toughness and rigidity)

IT Polyoxymethylenes, preparation
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyoxyalkylene-; branched polyacetal compns. with balanced toughness and rigidity)

IT Polyoxyalkylenes, preparation
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyoxymethylene-; branched polyacetal compns. with balanced toughness and rigidity)

IT Synthetic fibers
 RL: MOA (Modifier or additive use); USES (Uses)
 (potassium titanate; branched polyacetal compns. with balanced toughness and rigidity)

IT 31075-01-1P, 1,3-Dioxolane-phenyl glycidyl ether-trioxane copolymer
 256337-60-7P, 1,3-Dioxolane-o-phenylphenyl glycidyl ether-trioxane copolymer
 256337-65-2P, Butyl glycidyl ether-1,3-dioxolane-trioxane copolymer
 256337-66-3P, 1,3-Dioxolane-2-ethylhexyl glycidyl ether-trioxane copolymer
 262852-16-4P, 1,3-Dioxolane-glycidyl stearate-trioxane copolymer
 314262-85-6P, Butyl glycidyl ether-ethylene oxide-trioxane copolymer
 331846-75-4P
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (branched polyacetal compns. with balanced toughness and rigidity)

IT 471-34-1, Calcium carbonate, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (branched polyacetal compns. with balanced toughness and rigidity)

IT 12673-69-7, Potassium titanate
 RL: MOA (Modifier or additive use); USES (Uses)
 (fibers; branched polyacetal compns. with balanced toughness and rigidity)

L6 ANSWER 18 OF 25 CAPLUS COPYRIGHT 2002 ACS
 AN 2001:89649 CAPLUS
 DN 134:132732

TI Polyacetals with well-balanced flowability and draw-down property and their blow moldings

IN Kawaguchi, Kuniaki; Okawa, Hidetoshi; Tajima, Yoshihisa
 PA Polyplastics Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08G002-22

ICS C08G002-18; C08G065-26; B29C049-04; B29K059-00

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 37

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001031732	A2	20010206	JP 1999-209049	19990723
AB	Title polyacetals are obtained by polymn. of (A) trioxane 100, (B) cyclic ethers and/or cyclic formals 0-20, (C) monofunctional glycidyl compds. 0.001-10, and (D) polyfunctional glycidyl compds. 0.0005-1 part. Thus, 1,3-dioxolane 3.3, phenylphenol glycidyl ether 0.02, 1,4-butanediol diglycidyl ether 0.05, and trioxane 100 parts were polymd. in the presence of BF3 to give a polyacetal, 100 parts of which were melt kneaded with 0.45 part stabilizers, pelletized, and blow molded to give a box showing high impact strength and good surface smoothness.				
ST	branched polyacetal draw down property; crosslinked polyacetal flowability blow molding; blow molding polyacetal impact resistance; surface				

smoothness polyacetal blow molding container

IT Molded plastics, uses
 RL: DEV (Device component use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (blow; polyacetals with well-balanced flowability and draw-down property and their impact-resistant smooth blow moldings)

IT Containers
 (boxes; polyacetals with well-balanced flowability and draw-down property and their impact-resistant smooth blow moldings)

IT Polyoxymethylenes, uses
 RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (branched and/or crosslinked; polyacetals with well-balanced flowability and draw-down property and their impact-resistant smooth blow moldings)

IT Impact-resistant materials
 (polyacetals with well-balanced flowability and draw-down property and their impact-resistant smooth blow moldings)

IT 322399-74-6P 322399-75-7P 322399-76-8P 322399-77-9P 322399-78-0P
 RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyacetals with well-balanced flowability and draw-down property and their impact-resistant smooth blow moldings)

IT 7637-07-2, Boron trifluoride, uses
 RL: CAT (Catalyst use); USES (Uses)
 (polymn. catalysts; polyacetals with well-balanced flowability and draw-down property and their impact-resistant smooth blow moldings)

L6 ANSWER 19 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 2001:19055 CAPLUS

DN 134:72411

TI Branched polyacetal compositions

IN **Okawa, Hidetoshi; Tajima, Yoshihisa; Kawaguchi, Kuniaki**

PA Polyplastics Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08L059-04
 ICS C08G002-10

CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001002886	A2	20010109	JP 1999-177269	19990623
AB	The title compns., with good rigidity, surface hardness, and sliding property, comprise (a) 100 parts branched polyacetals derived from trioxane 100, monoglycidyl compds. (e.g., Bu glycidyl ether, 2-ethylhexyl glycidyl ether, o-phenylphenol glycidyl ether, m,p-cresyl glycidyl ether) 0.01-10, and cyclic ethers (e.g., ethylene oxide, 1,3-dioxolane) 0-20 parts and (b) 0.1-100 parts polyacetals (e.g., Duracon M 90).				
ST	rigidity branched polyacetal compn; surface hardness branched polyacetal compn; sliding property branched polyacetal compn; trioxane monoglycidyl compd dioxolane copolymer polyacetal				
IT	Bending strength Hardness (mechanical) Tensile strength (branched polyacetal compns.)				
IT	Polymer blends Polyoxymethylenes, properties RL: POF (Polymer in formulation); PRP (Properties); USES (Uses) (branched polyacetal compns.)				
IT	27342-38-7, Duracon M 90 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)				

(Duracon M 90; branched polyacetal compns.)
 IT 256337-60-7, 1,3-Dioxolane-o-phenylphenol glycidyl ether-trioxane
 copolymer 256337-65-2, Butyl glycidyl ether-1,3-dioxolane-trioxane
 copolymer 256337-66-3, 1,3-Dioxolane-2-ethylhexyl glycidyl
 ether-trioxane copolymer 313218-20-1, 1,3-Dioxolane-4-methoxyphenyl
 glycidyl ether-trioxane copolymer 314269-96-0, p-Cresyl glycidyl
 ether-1,3-dioxolane-trioxane copolymer 314269-97-1, 1,3-Dioxolane-
 phenylpropylene oxide glycidyl ether-trioxane copolymer 314269-98-2,
 1,3-Dioxolane-ethoxidized lauryl glycidyl ether-trioxane copolymer
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
 (branched polyacetal compns.)

L6 ANSWER 20 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 2000:911349 CAPLUS

DN 134:57529

TI Polyacetal resin compositions comprising polyacetals and branched
 polyacetals

IN Okawa, Hidetoshi; Tajima, Yoshihisa; Kawaguchi,
 Kuniaki

PA Polyplastics Co., Ltd., Japan

SO PCT Int. Appl., 20 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM C08L059-00

ICS C08G002-22; C08L059-04

CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000078866	A1	20001228	WO 2000-JP4150	20000623
	W: BR, CA, CN, DE, MX, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	JP 2001002885	A2	20010109	JP 1999-177268	19990623
	EP 1215245	A1	20020619	EP 2000-978919	20000623
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
	BR 2000007025	A	20011127	BR 2000-7025	20000707
PRAI	JP 1999-177268	A	19990623		
	WO 2000-JP4150	W	20000623		

AB A polyacetal resin compn. has high rigidity and is excellent in surface
 hardness, sliding properties, etc. The compn. comprises 100 parts
 polyacetal resin (A) and 0.01-100 parts branched polyacetal copolymer (B)
 obtained by copolyng. 100 parts trioxane (a), 0.01-10 parts monofunctional
 glycidyl compd. (b), and 0-20 parts cyclic ether compd. (c)
 copolymerizable with trioxane. Thus, trioxane 100, Bu glycidyl ether 0.2,
 and 1,3-dioxolane 3.5 parts were polynd. in the presence of methylal (mol.
 wt. modifier) and trifluoroboron (catalyst) to give a branched polyacetal,
 100 parts of which was melt kneaded with 0.03 parts pentaerythritol
 tetrakis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate] and 0.15 parts
 melamine to give pellets. Duracon M 90 (100 parts) and 5 parts branched
 polyacetal pellets were melt kneaded to give a polyacetal resin compn.
 showing flexural modulus 2590 MPa, tensile strength (ASTM D 638) 65.0 MPa,
 Rockwell hardness 93 (M scale), and durable sliding property.

ST polyacetal resin contg trioxane glycidyl compd cyclic ether copolymer

IT Polyoxymethylenes, preparation

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP
 (Properties); TEM (Technical or engineered material use); PREP
 (Preparation); USES (Uses)

(polyoxyalkylene-, graft; prepn. of polyacetal resin compns. comprising
 polyacetals and branched polyacetals)

IT Polyoxymethylenes, preparation

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP
 (Properties); TEM (Technical or engineered material use); PREP
 (Preparation); USES (Uses)

(polyoxyalkylene-; prepn. of polyacetal resin compns. comprising

polyacetals and branched polyacetals)

IT Polyoxyalkylenes, preparation
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyoxymethylene-, graft; prepn. of polyacetal resin compns. comprising polyacetals and branched polyacetals)

IT Polyoxyalkylenes, preparation
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyoxymethylene-; prepn. of polyacetal resin compns. comprising polyacetals and branched polyacetals)

IT Polyoxymethylenes, preparation
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (prepn. of polyacetal resin compns. comprising polyacetals and branched polyacetals)

IT Polymer blends
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (prepn. of polyacetal resin compns. comprising polyacetals and branched polyacetals)

IT 256337-60-7P 256337-65-2P, Butyl glycidyl ether-1,3-dioxolane-trioxane copolymer 256337-66-3P, 1,3-Dioxolane-2-ethylhexyl glycidyl ether-trioxane copolymer 313218-20-1P 313218-21-2P 313350-58-2P 314269-97-1P
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (prepn. of polyacetal resin compns. comprising polyacetals and branched polyacetals)

IT 27342-38-7, Duracon M 90
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (prepn. of polyacetal resin compns. comprising polyacetals and branched polyacetals)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Anon; US 5929195 A CAPLUS
- (2) Polyplastics Co; US 5929195 A CAPLUS
- (3) Polyplastics Co; JP 439319 A 1992
- (4) Polyplastics Co; JP 1135649 A 1999

L6 ANSWER 21 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 2000:666796 CAPLUS

DN 133:252899

TI Polyacetal copolymers and their manufacture

IN **Tajima, Yoshihisa; Okawa, Hidetoshi**

PA Polyplastics Co., Ltd., Japan

SO PCT Int. Appl., 17 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM C08G002-18

CC 35-7 (Chemistry of Synthetic High Polymers)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000055227	A1	20000921	WO 2000-JP1532	20000314
	W: BR, CA, MX, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	JP 2000264940	A2	20000926	JP 1999-68703	19990315
	EP 1167409	A1	20020102	EP 2000-936518	20000314
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,				

IE, FI
 US 6426393 B1 20020730 US 2001-762064 20010201
 FRAI JP 1999-68703 A 19990315
 WO 2000-JP1532 W 20000314
 AB Polyacetal copolymers with improved thermal stability and processibility are prepd. by polymg. (a) 100 parts of trioxane, (b) 0.05-20 parts of other cyclic ethers which are polymerizable with trioxane, and (c) 0.001-10 parts of a monofunctional glycidyl compd. with chlorine content below 0.3 wt.%. Thus a Bu glycidyl ether-1,3-dioxolane-trioxane copolymer was prepd. by bulk polymn. to provide a polyacetal polymer with Izod impact resistance of 72 J/m.
 ST trioxane butyl glycidyl ether dioxolane copolymer manuf; polyoxymethylene manuf trioxane polymn
 IT Polyoxymethylenes, preparation
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyacetal copolymers and their manuf.)
 IT 31075-01-1P, 1,3-Dioxolane-phenyl glycidyl ether-trioxane copolymer
 256337-65-2P, Butyl glycidyl ether-1,3-dioxolane-trioxane copolymer
 256337-66-3P 294888-85-0P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyacetal copolymers and their manuf.)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

- RE
 (1) Mitsubishi Gas Chem Co Inc; JP 02214714 A 1990 CAPLUS
 (2) Polyplastics Co; US 5929195 A CAPLUS
 (3) Polyplastics Co; JP 1135649 A 1999
 (4) Toray Ind Inc; JP 04266917 A 1992 CAPLUS

L6 ANSWER 22 OF 25 CAPLUS COPYRIGHT 2002 ACS
 AN 2000:84878 CAPLUS
 DN 132:123088
 TI Copolyacetal resins with good rigidity, surface hardness and creep and sliding property
 IN **Okawa, Hidetoshi; Tajima, Yoshihisa**
 PA Polyplastics Co., Ltd., Japan
 SO PCT Int. Appl., 26 pp.
 CODEN: PIXXD2
 DT Patent
 LA Japanese
 IC ICM C08G002-22
 CC 35-7 (Chemistry of Synthetic High Polymers)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000005285	A1	20000203	WO 1999-JP3966	19990723
W: CN, KR, US RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
JP 2000038429	A2	20000208	JP 1998-209764	19980724
JP 2000095829	A2	20000404	JP 1999-207314	19990722
JP 2000095830	A2	20000404	JP 1999-207315	19990722
EP 1120431	A1	20010801	EP 1999-931519	19990723
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 6255440	B1	20010703	US 2000-646752	20000921
PRAI JP 1998-209762	A	19980724		
JP 1998-209763	A	19980724		
JP 1998-209764	A	19980724		
WO 1999-JP3966	W	19990723		

AB The resins are obtained by copolyng. (A) 100 parts of trioxane with (B) 0.01-10 parts of glycidyl ethers of C1-12 alkyl or aryl-substituted phenol compds., of polyalkylene glycol monophenyl ethers or/and of (optionally via polyalkylene glycol group) mono-C1-30 alkyl ethers and 0-20 parts of a cyclic ether compd. copolymerizable with trioxane other than the compds. in B. Thus, bulk polymn. of trioxane 100 with p-tert-butylphenyl glycidyl

ether 2.50 and 1,3-dioxolane 2.57 parts in the presence of methylal and BF3-di-Bu etherate in Bu2O gave a polyacetal resin which was kneaded with 4% a 5% aq. soln. of Et3N and 0.3% pentaerythrityl tetrakis[3-(3,5-di-tert-butyl-4-hydroxyphenyl) propionate] (I) at 210.degree. while removing unstable component, then pelletized with 0.03 phr I and 0.15 melamine to give pellets. Molded test pieces from the pellets had Avrami index 3, tensile strength 62.6 MPa, flexural strength 2631 MPa and Rockwell hardness (M scale) 92.2.

ST rigidity surface hardness property polyacetal resin; sliding property polyoxymethylene resin; trioxane dioxolane copolyacetal resin

IT Polyoxymethylenes, preparation

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(copolyacetal resins with good rigidity, surface hardness and creep and sliding property)

IT 256337-59-4P, 1,3-Dioxolane-p-tert-butylphenyl glycidyl ether-trioxane copolymer 256337-60-7P, 1,3-Dioxolane-o-phenylphenyl glycidyl ether-trioxane copolymer 256337-61-8P, 1,3-Dioxolane-polyethylene glycol glycidyl phenyl ether-trioxane copolymer 256337-62-9P, Benzyl glycidyl ether-1,3-dioxolane-trioxane copolymer 256337-64-1P, 1,3-Dioxolane-2-phenoxy-1-methylethyl glycidyl ether-trioxane copolymer 256337-65-2P, Butyl glycidyl ether-1,3-dioxolane-trioxane copolymer 256337-66-3P, 2-Ethylhexyl glycidyl ether-1,3-dioxolane-trioxane copolymer 256337-67-4P, 1,3-Dioxolane-2-methyloctyl glycidyl ether-trioxane copolymer

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(copolyacetal resins with good rigidity, surface hardness and creep and sliding property)

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Farbwerke Hoechst Ag Vormals Meister Lucius & Bruning; DE 1261319 A1
- (2) Farbwerke Hoechst Ag Vormals Meister Lucius & Bruning; DE 1301096 A1
- (3) Farbwerke Hoechst Ag Vormals Meister Lucius & Bruning; DE 1301102 A1
- (4) Farbwerke Hoechst Ag Vormals Meister Lucius & Bruning; GB 1426835 A CAPLUS
- (5) Farbwerke Hoechst Ag Vormals Meister Lucius & Bruning; DE 2101817 A1 CAPLUS
- (6) Farbwerke Hoechst Ag Vormals Meister Lucius & Bruning; DE 2233861 A1 CAPLUS
- (7) Farbwerke Hoechst Ag Vormals Meister Lucius & Bruning; US 3442860 A
- (8) Farbwerke Hoechst Ag Vormals Meister Lucius & Bruning; US 3442865 A
- (9) Farbwerke Hoechst Ag Vormals Meister Lucius & Bruning; US 3453238 A
- (10) Farbwerke Hoechst Ag Vormals Meister Lucius & Bruning; US 4181685 A CAPLUS
- (11) Farbwerke Hoechst Ag Vormals Meister Lucius & Bruning; JP 43026871 B1 1968
- (12) Farbwerke Hoechst Ag Vormals Meister Lucius & Bruning; JP 43026873 B1 1968
- (13) Farbwerke Hoechst Ag Vormals Meister Lucius & Bruning; JP 44028509 B1 1969
- (14) Farbwerke Hoechst Ag Vormals Meister Lucius & Bruning; JP 47014249 A 1972
- (15) Farbwerke Hoechst Ag Vormals Meister Lucius & Bruning; JP 49053286 A 1974

CAPLUS

- (16) Mikhailov, M; 1974, 18, P14 CAPLUS
- (17) Mikhailov, M; Izv Otd Khim Nauki, Bulg Akad Nauk V7(1), P61 CAPLUS
- (18) Mitsubishi Gas Chemical Co Inc; JP 61012713 A 1986 CAPLUS
- (19) Mitsubishi Gas Chemical Co Inc; JP 02214714 A 1990 CAPLUS
- (20) Polyplastics Co Ltd; JP 08231665 A 1996 CAPLUS
- (21) Toray Industries Inc; EP 412783 A1 CAPLUS
- (22) Toray Industries Inc; US 5079330 A CAPLUS
- (23) Toray Industries Inc; JP 03109411 A 1991 CAPLUS
- (24) Toray Industries Inc; JP 03170526 A 1991 CAPLUS
- (25) Toray Industries Inc; JP 04266917 A 1992 CAPLUS
- (26) Toyo Rayon K K; JP 44007139 B1 1969 CAPLUS

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